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ICONES ORCHIDACEARUM

Fascicle 4

THE GENUS EPIDENDRUM

Part 3

"A Third Century of New Species in Epidendrum"

Eric Hágsater

CONTRIBUTORS TO FASCICLE 4

Authors:
Eric Hágsater
Calaway H. Dodson
Luis Sánchez Saldaña
Liliana Cervantes
Robert L. Dressler
Philip A. Silverstone-Sopkin

Illustrators:
Rolando Jiménez Machorro
Marco López Rosas
Eric Hágsater
Liliana Cervantes

Editors: Eric Hágsater & Luis Sánchez Saldaña



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Apartado Postal 53-123, 11320 México, D.F., MÉXICO

ICONES ORCHIDACEARUM

Fascicle 4, plates 401 to 500

THE GENUS *EPIDENDRUM*
Part 3

"A Third Century of New Species in *Epidendrum*"

Reference Map

TROPICAL AMERICA
(numbers refer to the portions of the map used in individual plates)



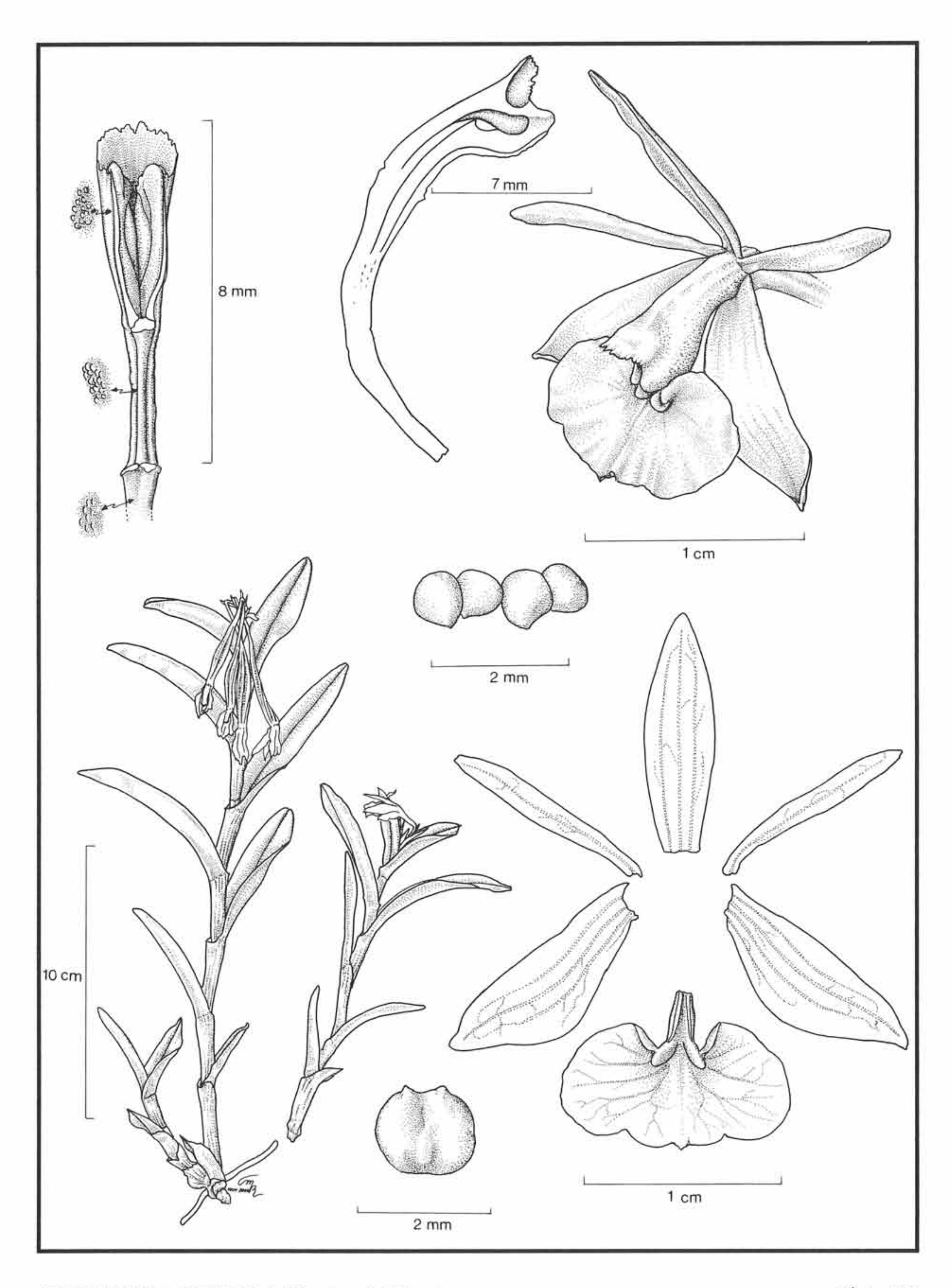
ICONES ORCHIDACEARUM

Fascicle 4, plates 401 to 500

THE GENUS *EPIDENDRUM*
Part 3

"A Third Century of New Species in *Epidendrum*"

Index to Plates



EPIDENDRUM ABBOTTII L. Sánchez & Hágsater

Plate 401

EPIDENDRUM ABBOTTII L. Sánchez et Hágsater, *sp. nov.*

Type: DOMINICAN REPUBLIC: Jovero, near sea level, Dec 6, 1923, ***W. L. Abbott 2901.*** Holotype: AMES! (illustration voucher). Isotype: US!

Epidendro boricuarum Hágsater & L. Sánchez simile sed sepalis trinervatis, petalis lineari-lanceolatis uninervatis, labelli lobulis lateralibus ad marginem leviter sinuatis, lobulo medio apiculato, clinandrio prominentissimo erosoque differt.

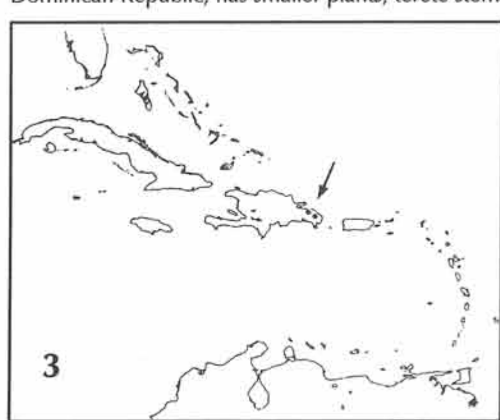
Hierba epífita, cespitosa, 18-34 cm de alto incluyendo la inflorescencia. **Raíces** basales, carnosas, 1.0-1.5 mm de grosor. **Tallos** sencillos, tipo caña, algo lateralmente comprimidos, 12-31 cm. **Hojas** 7-12, equidistantes a lo largo del tallo, erectas; vaina algo lateralmente comprimida, lisa, 1.5-2.0 cm de largo; lámina angostamente elíptico lanceolada, ápice asimétricamente bilobado, margen entero, coriácea, sin carina dorsal, color verde, 3.5-9.0 x 1.0-2.0 cm. **Inflorescencia** apical en el tallo maduro, florece una sola vez, subumbelada,sésil. **Brácteas florales** más cortas que el ovario, triangulares, acuminadas, 5-9 x 1.5-2.0 mm. **Flores** 4-7, simultáneas, resupinadas, color amarillo verdosas, fragancia no registrada. **Ovario** no inflado, terete, diminutamente papiloso, 30-40 x 0.7-0.9 mm. **Sépalos** extendidos, libres, glabros, membranáceos, elípticos, agudos, margen entero, ligeramente revolutos, 3-nervados, 11-12 x 3.0-4.0 mm; los laterales ligeramente oblicuos. **Pétalos** entreabiertos, membranáceos, linear lanceolados, obtusos, margen entero, extendido, 1-nervado, 9.5-10 x 0.9-1.0 mm. **Labelo** unido a la columna, membranáceo, ligeramente trilobado, base cordada, reniforme en contorno general, 6.0-6.4 x 10.7-11 mm; bicalloso, los callos laminares, separados y paralelos entre sí; lobulos laterales ovados, margen ligeramente sinuado, 3.5 x 5.2 mm; lóbulo medio corto y ancho, apiculado, 0.7 x 4.2 mm. **Columna** ligeramente arqueada, gruesa, diminutamente papilosa, 7.0-9.0 mm. **Clinandrio** prominente, margen eroso. **Antera** subesférica, no ornamentada, 4-locular. **Polinios** 4, subglobosos, lateralmente comprimidos, subiguales; caudículas suaves y granulosas, ligeramente más largas que los polinios. **Rostelo** apical, hendido. **Lóbulos laterales del estigma** cortos, de un tercio de la cavidad estigmática. **Nectario** penetrando 1/2 del ovario, no ornamentado. **Cápsula** subelípsoide, 15-20 x 6.5-7.5 mm.

Epiphytic, caespitose **herb**. **Stems** somewhat laterally compressed. **Leaves** 7-12, erect, narrowly elliptic-lanceolate, bilobed, margin entire, coriaceous. **Inflorescence** apical, subumbellate, sessile. **Floral bracts** smaller than the ovary, triangular, acuminate. **Flowers** 4-7, simultaneous, resupinate, greenish-yellow. **Ovary** not inflated, terete, minutely papillose. **Sepals** spreading, free, glabrous, membranaceous, elliptic, acute, margin entire, slightly revolute, 3-veined; the laterals slightly oblique. **Petals** spreading, membranaceous, linear-lanceolate, obtuse, margin entire, 1-veined. **Lip** united to the column, membranaceous, shallowly three-lobed, reniform in outline; bicallose, the calli laminar, separated, parallel; lateral lobes ovate, slightly sinuate; midlobe short and wide, apiculate. **Column** slightly arcuate, minutely papillose. **Clinandrium** prominent, erose. **Anther** subspheric, unornamented, 4-locular. **Pollinia** 4, subglobose, laterally compressed. **Rostellum** apical, slit. **Nectary** penetrating one half of the ovary, unornamented. **Capsule** subellipsoid.

OTHER SPECIMENS: DOMINICAN REPUBLIC: Liali, *W. L. Abbott 2655,* US! **Seibo:** Vicinity of Higüey, *Howard & Howard 9818,* AMES! NY!

DISTRIBUTION AND ECOLOGY: Known only from the eastern end of the Dominican Republic. Epiphyte, from sea level to 500 m altitude. Flowering and fruiting from November to February.

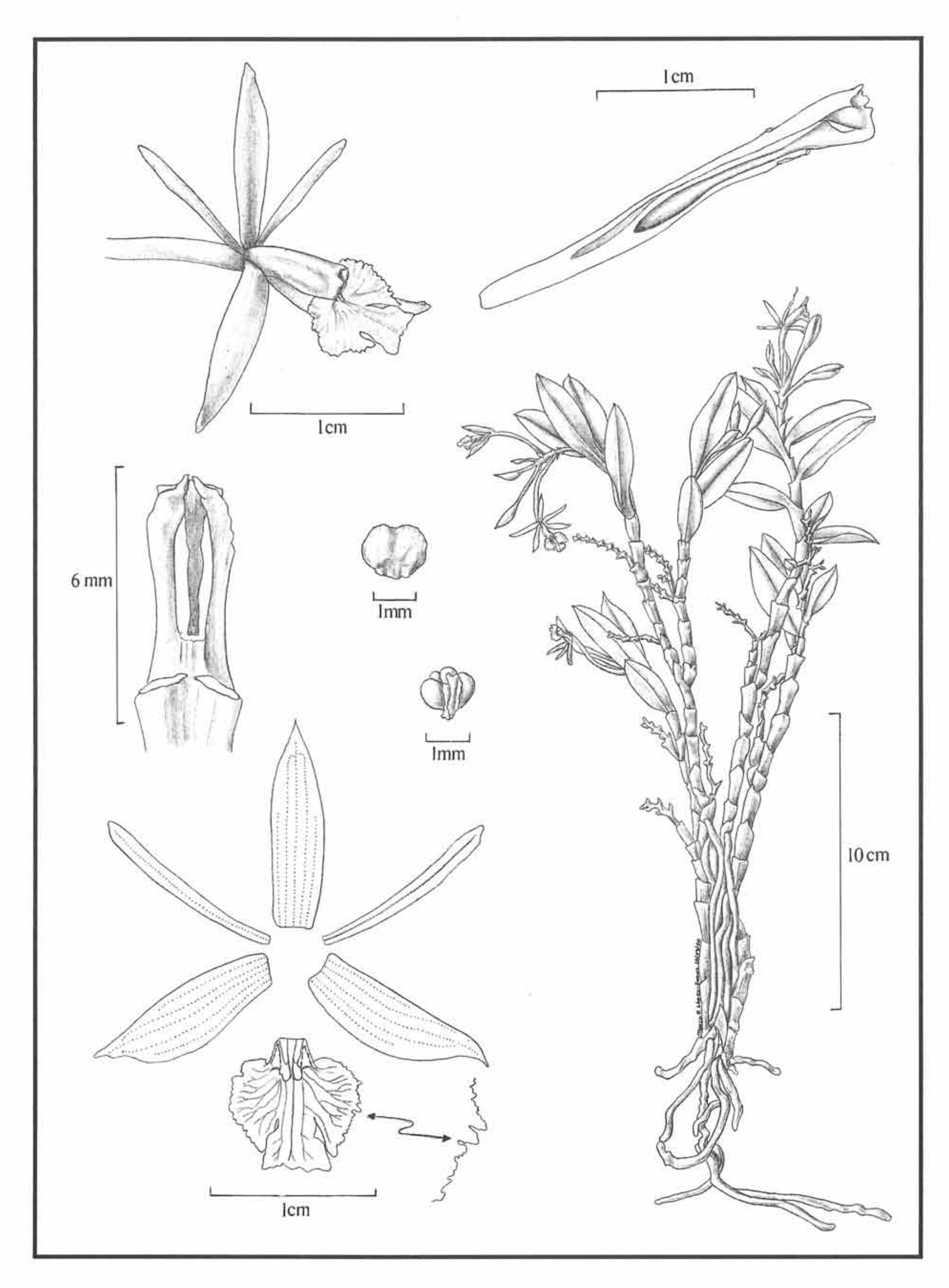
RECOGNITION: *Epidendrum abbottii* belongs to the difforme group, and can be recognized by somewhat laterally compressed stems, 3-veined sepals, linear-lanceolate, 1-veined petals, lateral lobes of the lip with a slightly sinuate margin, short apiculate midlobe, clinandrium very prominent and erose. *Epidendrum boricuarum* Hágsater & L. Sánchez has 5-veined sepals, oblanceolate, 3-veined petals, midlobe emarginate, forming two suborbicular lobules, clinandrium not prominent. *Epidendrum floridense* Hágsater has terete stems, oblanceolate, 3-veined petals, a cordate lip with an entire margin. *Epidendrum umbellatum* Sw. has large, vigorous plants, laterally compressed stems, narrowly obovate, 3-veined petals, lateral lobes of the lip with entire margin and bilobed midlobe. *Epidendrum orientale* Hágsater & M.A. Díaz has compact plants, terete stems, oblanceolate, 3-veined petals, bilobed lip with the lobes subovate and sometimes notched at the margin, giving the impression of a 4-lobed lip. *Epidendrum difforme* Jacq. has strongly laterally compressed, ancipitose stems, 5-veined sepals, ligulate-lanceolate, 3-veined petals, lateral lobes of the lip entire, the midlobe subquadrate, clinandrium short. *Epidendrum crenulidifforme* L. Sánchez & Hágsater, also from the Dominican Republic, has smaller plants, terete stems, 5-veined sepals, 3-veined petals, and an entire lip with crenulate margin.



CONSERVATION STATUS: DD. Data deficient.

ETYMOLOGY: This species is dedicated to W. L. Abbott, who collected the material from which the type was prepared. He collected numerous orchids in the Dominican Republic between 1920 and 1923 and deposited them mainly at AMES and US.

Authors: L. Sánchez S. & E. Hágsater **Illustrator: M. López R.** **Editors: E. Hágsater & L. Sánchez S.**
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EPIDENDRUM ACROBATESII Hágsater & Dodson Plate 402

EPIDENDRUM ACROBATESII Hágsater *et* Dodson, *sp. nov.*

Type: ECUADOR: Loja: N slopes of Nudo de Sabanilla S of Yangana on road to Valladolid, 4°28'S 79°10'W, 2500 m, 24 Feb. 1988, ***Molau & Eriksen 3191.*** Holotype: GB! (illustration voucher). Isotypes: AAU! QCA!

Epidendro batesii Dodson affine sed floribus minoribus, ovario non inflato, labelli lobulis lateralibus transverse semiovatis, lobulo medio obcuneato truncato recedit.

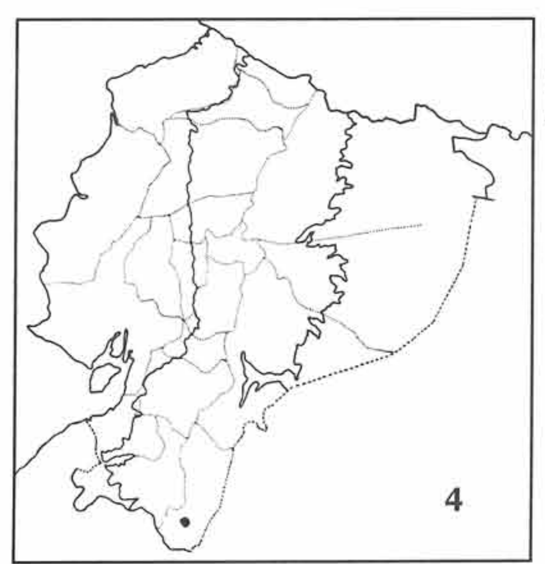
Hierba terrestre, ramificada, 31 cm de alto. **Raíces** basales, escasas en la base de las ramas inferiores, carnosas, delgadas, 1-2 mm de grosor. **Tallos** ramificados, tipo caña, teretes, rectos; de los entrenudos subapicales del tallo anterior 1.5-5 X 0.3-0.5 cm. **Hojas** generalmente 5, distribuidas a lo largo de la mitad apical del tallo, alternas, articuladas; vainas tubulares, rugosas, estriadas, 0.7-1.2 X 0.3-0.5 cm; lámina elíptica, mucronada, margen apical finamente eroso dentado, lisa, con una quilla dorsal, 2.2-3.8 X 0.7-1.4 cm. **Espata** ausente. **Inflorescencia** apical, florece una sola vez, racemosa a paniculada (con una rama pequeña en la base), suberecta, 5 cm de alto; raquis flexuoso, compacto, ornamentada con una quilla que se prolonga en cada bráctea floral. **Brácteas florales** mucho más cortas que el ovario, ovadas, conduplicadas, obtusas a agudas, 1-3 mm de largo. **Flores** 6-12, sucesivas, 1-2 abiertas a la vez, resupinadas, amarillo verdosas, fragancia no registrada. **Ovario** pedicelado, no inflado, terete, no ornamentado, 17-24 mm de largo. **Sépalos** extendidos, libres, angostamente elípticos, agudos, margen entero, 5-nervados, 10-12 X 3.5 mm. **Pétalos** extendidos, libres, linear oblanceolados, agudos, margen entero, 1-nervado, 12 X 1 mm. **Labelo** unido a la columna, trilobado, ligeramente cordado, 5 X 7 mm; bicalloso, callos basales, pequeños; lóbulos laterales transversalmente semiovados, ápice agudo, margen eroso; lóbulo medio obcuneado, truncado, margen apical eroso. **Columna** recta, delgada, 7 mm de largo. **Clinandrio** reducido, entero. **Antera** subreniforme, 4-locular. **Polinios** 4, obovoides; caudículas semigranulosas, ligeramente más largas que los polinios. **Rostelo** apical, hendido. **Lóbulos laterales del estigma** de ½ de largo de la cavidad estigmática. **Nectario** penetrando ½ del ovario, no ornamentado. **Cápsula** no vista.

Terrestrial, branching **herb. Roots** from the base and lower stems. **Stems** branching, cane-like, terete, from a subapical internode of the previous stem. **Leaves** generally 5, distributed along the apical half of the stems; sheath tubular, rugose, striated; blade elliptic, mucronate, apical margin finely erose-dentate. **Spathe** lacking. **Inflorescence** apical, racemose to paniculate (with a small basal branch), suberect, rachis short, compact, flexuous, ornamented with a prominent keel below each floral bract. **Floral bracts** much shorter than the ovary, conduplicate, obtuse to acute. **Flowers** 6-12, successive, 1-2 open at one time, resupinate, greenish-yellow. **Ovary** terete, not inflated, unornamented. **Sepals** spreading, free, narrowly elliptic, acute, 5-veined. **Petals** spreading, free, linear-oblanceolate, acute, margin entire, 1-veined. **Lip** united to the column, 3-lobed, slightly cordate, bicallose, the calli basal, small; lateral lobes transversely semiovate, apex acute, margin erose; midlobe obcuneate, truncate, apical margin erose. **Column** straight. **Clinandrium** reduced, entire. **Anther** subreniform, 4-celled. **Pollinia** 4, obovate, caudicles somewhat longer than the pollinia. **Rostellum** apical, slit. **Nectary** penetrating half the ovary, unornamented.

OTHER SPECIMENS: None seen.

DISTRIBUTION AND ECOLOGY: Known only from Ecuador, from the Province of Loja, slopes of the Nudo de Sabanilla south of Yangana. Terrestrial in both virgin and disturbed cloud forest, 2500 m altitude. Flowering in February probably over a long period.

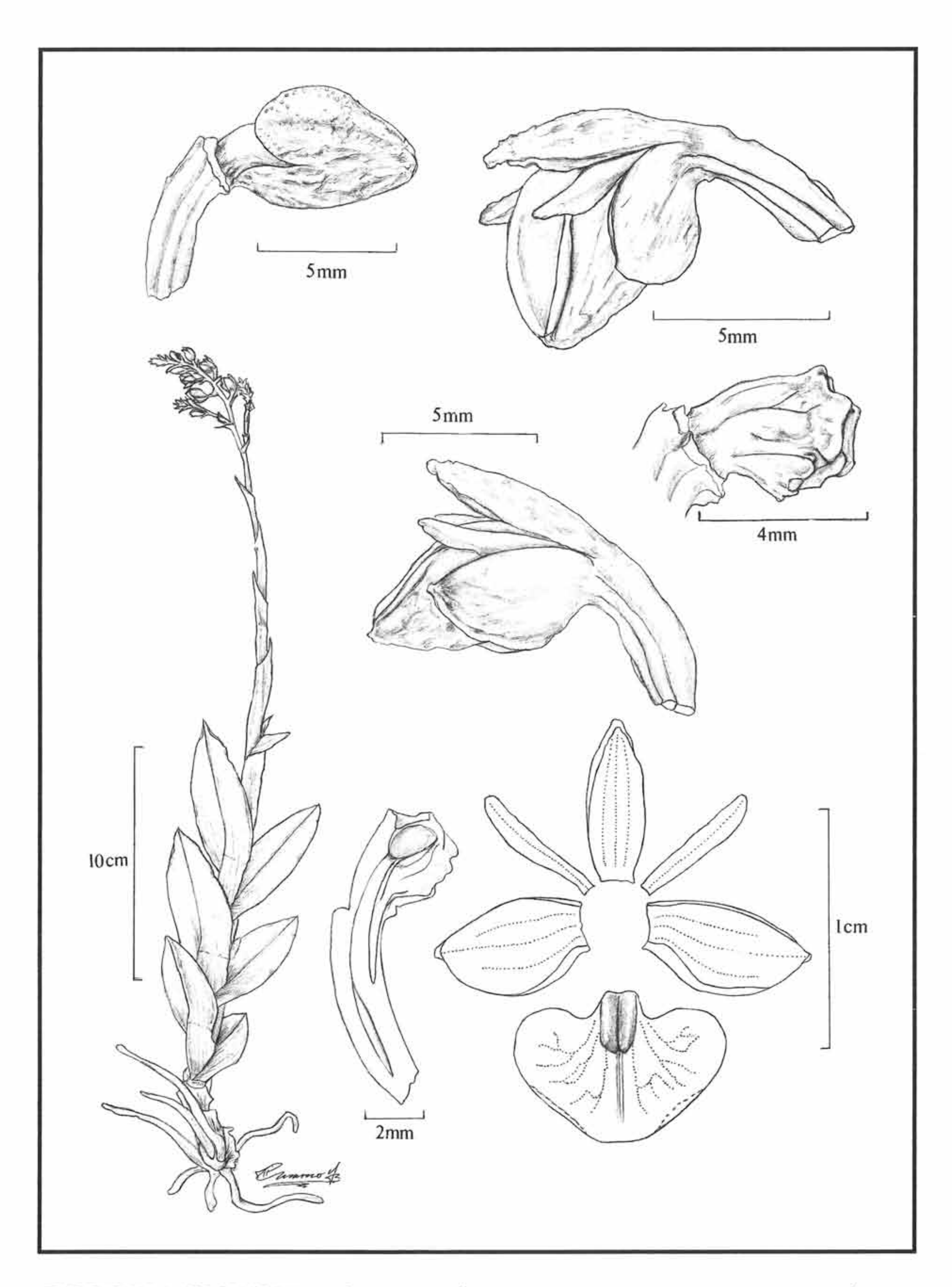
RECOGNITION: *Epidendrum acrobatesii* appears to have at first sight the habit of a plant of the cardiophyllum group, but it belongs to the batesii group, and is recognized by its branching stem, elliptic-lanceolate, acute leaves, and a suberect peduncle and rachis, the successive flowers, one open at a time, the obcuneate midlobe of the lip and the large lateral lobes transversely semiovate, the apex acute. It is very close to *E. batesii* which has larger flowers, a more prominently inflated ovary, and ranges along the Pacific lowlands (250-600 m), in southern Colombia and Ecuador.



CONSERVATION STATUS: DD. Data deficient.

ETYMOLOGY: From the Greek ἄκρος, summit, in reference to the high altitude where it grows, and Bates, from *Epidendrum batesii*, the closely related species.

Authors: E. Hágsater & C. H. Dodson **Illustrator: M. López R.** **Editors: E. Hágsater, & L. Sánchez S.**
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EPIDENDRUM ACRORHODUM Hágsater & Dodson

Plate 403

EPIDENDRUM ACRORHODUM Hágsater et Dodson, *sp. nov.*

Type: ECUADOR: Zamora-Chinchipe: Yangana to Valladolid, beyond pass, Apr. 1985, ***D'Alessandro 416.*** Holotype: RPSC! (illustration voucher).

Epidendro indanzensi Hágsater & Dodson simile sed floribus minoribus roseis usque purpureis, petalis lineari-oblanceolatis uninervatis et labello bicalloso divergens.

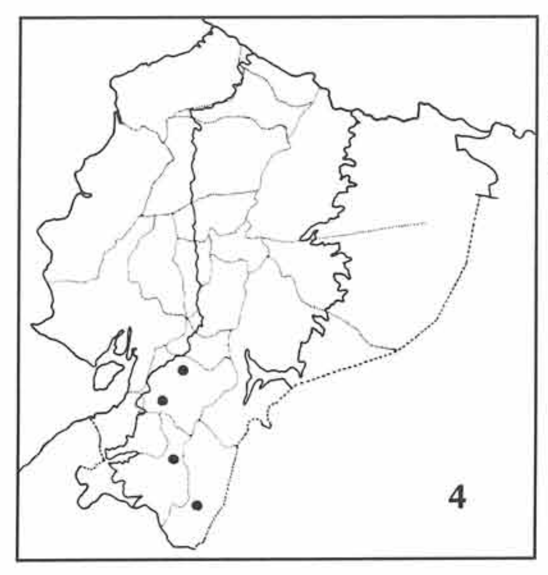
Hierba terrestre, cespitosa, 16-72 cm de alto. **Raíces** basales, carnosas, gruesas, 2.0-2.5 mm. **Tallos** tipo caña, ancipitosos, 8-23 x 0.6-1.4 cm. **Hojas** 6-10, distribuidas a todo lo largo del tallo, equidistantes; vainas ancipitosas, 5-36 x 6-14 mm; láminas ovado elípticas, agudas, con una quilla dorsal prominente, 20-85 x 8-28 mm. **Espata** ausente. **Inflorescencia** apical, alargada, racemosa a paniculada; pedúnculo ancipitoso en la base, erecto, más largo que el tallo, 10-29 cm de largo, cubierto por brácteas ancipitosas, agudas, progresivamente más cortas, 10-50 x 2-9 mm, raquis arqueado a nutante. **Brácteas florales** más o menos del mismo largo que el ovario, triangulares, acuminadas, 1-4 mm de largo. **Flores** 5-86, sucesivas, 2-3 abiertas a la vez, una por rama, dísticas, el labelo siempre cercano al raquis, no resupinadas, de color rosa brillante a morado; fragancia no registrada. **Ovario** corto, grueso, no inflado, 2-7 mm. **Sépalos** entreabiertos, carnosos, elípticos, redondeados, mucronados, dorsalmente levemente pustulosos, 3-nervados; el **dorsal** 6.2-7 x 2-2.5 mm; los **laterales** 6-7 x 3-4 mm. **Pétalos** entreabiertos, carnosos, linear oblanceolados, redondeados, 1-nervados, 6 x 1 mm. **Labelo** entero, cordiforme, redondeado, conduplicado en posición natural, los lados erectos y ocultando la columna, apicalmente con el margen revoluto, 5.5-6.2 x 8-8.5 mm; bicalloso, los callos prominentes, paralelos y juntos. **Columna** recta, corta, gruesa, 3.2-3.6 mm de largo. **Clinandrio** reducido, entero. **Antera** y **polinios** no vistos. **Rostelo** apical, hendido. **Lóbulos laterales del estígma** casi del mismo largo de la cavidad estigmática. **Nectario** penetrando un poco menos de la mitad del ovario, no inflado, no ornamentado. **Cápsula** elipsoide, cuerpo 14-15 x 10.3-10.7 mm, pedicelo 2 x 1.3-1.8 mm, cuello apical 1-1.6 x 1.7-2 mm.

Terrestrial, caespitose **herb. Stems** cane-like, ancipitose. **Leaves** distributed throughout the short stem, sheaths ancipitose, blades ovate-elliptic, acute, dorsally keeled. **Spathe** absent. **Inflorescence** apical, racemose to paniculate, the peduncle elongate, longer than the stem, ancipitose, covered by progressively shorter bracts, these ancipitous, acute, rachis arching-nutant. **Floral bracts** triangular-acuminate, about as long as the ovary. **Flowers** ca. 25, successive, 2-3 open at one time, distichous, the lip always close to the rachis, non-resupinate, bright pink to purple. **Ovary** short, thick, not inflated. **Sepals** partly spreading, fleshy, elliptic, apex rounded-mucronate, dorsally ornate, pustulate, 3-veined. **Petals** partly spreading, fleshy, linear-oblanceolate, apex rounded, 1-veined. **Lip** entire, cordiform, apex rounded, conduplicate in natural position, the sides erect and hiding the column, the apex margin somewhat revolute, bicallose, the calli prominent, parallel and close. **Column** straight, short, thick. **Clinandrium** reduced, entire. **Nectary** penetrating nearly half the ovary, not inflated, unornamented.

OTHER SPECIMENS: ECUADOR: Azuay: Between Oña and the Río Yacuambi, *F. Prieto P-272* NY! S! S of El Pan, *Steyermark 53392*, AMES! **Loja:** Numbala Alta, *D'Alessandro 181*, SEL! **Zamora-Chinchipe**: Pass on road from Loja to Zamora, at km 14, 2800 m, 22 March 1988, *A. Hirtz, C. & J. Luer, & W. Flores 2287* RPSC! slide AMO! km 14 Loja-Zamora, just beyond the pass, *Madison et al. 7423* SEL!

DISTRIBUTION AND ECOLOGY: Known only from south-eastern Ecuador, at 2700-3100 m altitude, epiphytic in elfin forest. Flowering in December-April, June.

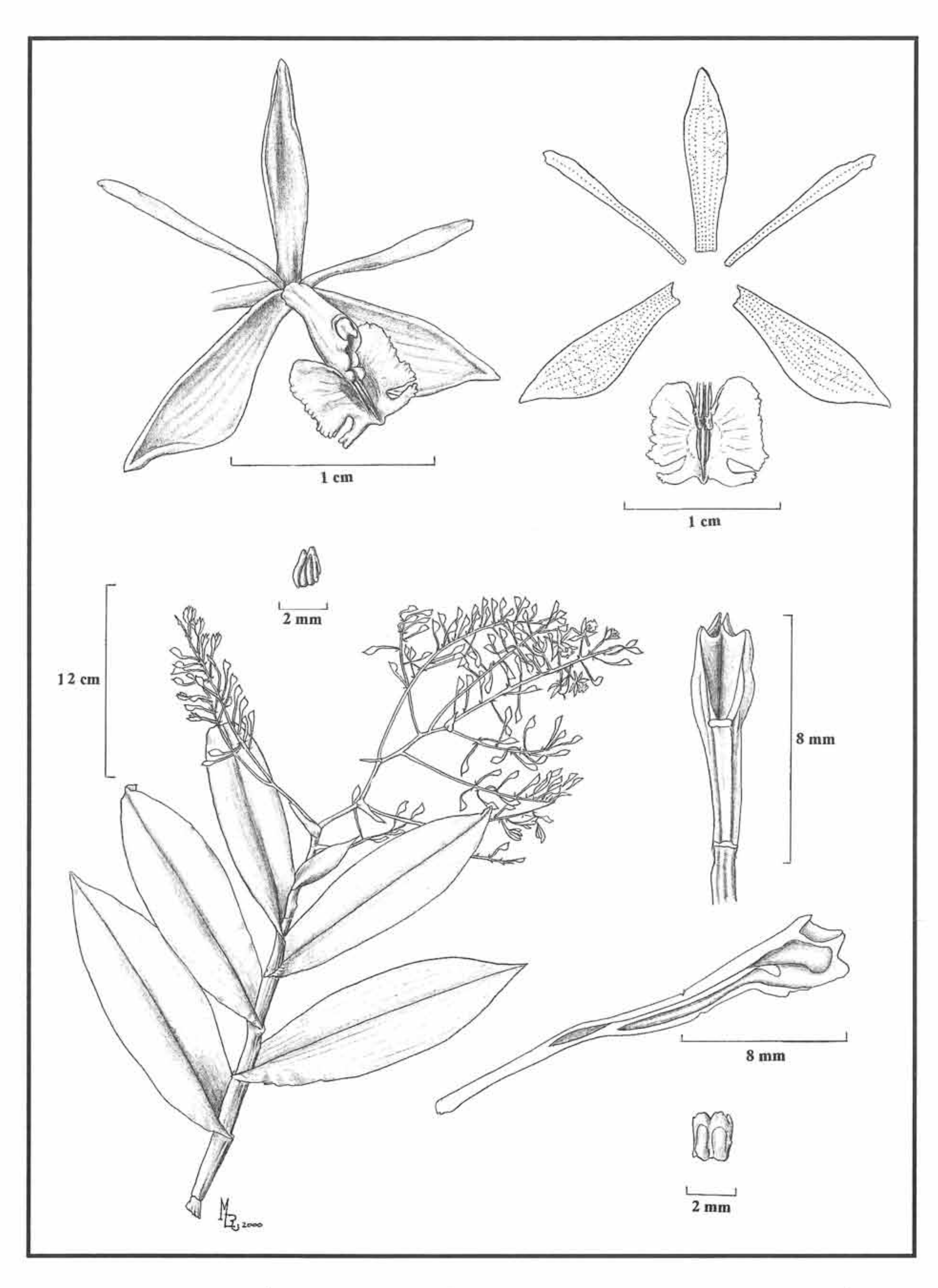
RECOGNITION: *Epidendrum acrorhodum* belongs in the frutex group and has a caespitose habit, ancipitose stems, ovate-elliptic leaves about 3:1, an erect, elongate peduncle with the paniculate rachis arching and nutant, flowers bright pink to purple, sepals 7 mm long. *Epidendrum indanzense* Hágsater & Dodson has the same habit and elongate inflorescence, but the rachis is erect and the flowers green, sepals 15 mm long.



ETYMOLOGY: From the Greek ἄκρος, at the tip, end, summit, in reference to the fact that the species is found close to the pass in the eastern Andes, and ρόδον pink, the bright color of the flowers.

NOTE: The flowers are of a strikingly vivid pink color. There are a number of bright pink flowered *Epidendrum* species at high altitude in the Andes, at about 3000 m altitude.

Authors: E. Hágsater & C. H. Dodson **Illustrator: M. López R.** **Editors: E. Hágsater & L. Sánchez S.**
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EPIDENDRUM AGUARICOËNSE Hágsater & Dodson

Plate 404

EPIDENDRUM AGUARICOËNSE Hágsater et Dodson, *sp. nov.*

Type: ECUADOR: Sucumbios: Lago Agrio, Reserva Faunística Cuyabeno. Río Aguarico. Frente a la desembocadura del Río Pacuyacu, epífita, bosque primario, pantano, con tierra firme solo en la orilla del río, 230 m, 1 Oct 1991, ***Walter Palacios, Quelal, Aulestia, Revelo & Freire 8004.*** Holotype: QCNE! (illustration voucher).

Epidendro agoyanensi Hágsater & Dodson similare sed habitu majore, caule lateraliter compresso, columna longiore, petalis latioribus et labello latiore inter lobulis lateralibus transverse rectangularibus quam inter lobulis apicalibus.

Hierba epífita, de ca. 100 cm de alto. **Raíces** no vistas. **Tallos** sencillos, tipo caña, lateralmente aplanados, rectos, 100 x 0.7-1.2 cm. **Hojas** numerosas, distribuidas a lo largo del tallo, alternas, las apicales ligeramente más angostas; vaina tubular, lateralmente comprimida, lisa, 21-41 x 7-12.2 mm; lámina foliar elíptica, acuminada, margen entero, lisa, 16.5-22 x 4.1-5.9 cm. **Espata** ausente. **Inflorescencia** apical, paniculada, suberecta, florece una sola vez, 13-28.5 cm de largo; pedúnculo corto, lateralmente aplanado, liso, ocasionalmente provisto de una bráctea basal semejante a la de las ramas, 4.5 cm de largo; raquis provisto de ca. 8 ramas de hasta de 16 cm de largo, cuando maduras a su vez ramificadas, cada una de ellas con una bráctea basal, aguda, gradualmente más pequeña hacia las ramas apicales, 0.9-3.5 cm de largo. **Flores** ca. 220, simultáneas, resupinadas, de color verde, labelo y columna blancos, sin datos de fragancia. **Bráctea floral** mucho más corta que el ovario, triangular, acuminada, 2-6 mm de largo. **Ovario** terete, ligeramente inflado en el 1/4 apical, no ornamentado, 9-26 mm de largo. **Sépalos** extendidos, libres, glabros, carnosos, angostamente espatulados oblanceolados, agudos, márgenes enteros y extendidos, 5 nervados, 11-12.5 x 2.9-4.0 mm; los **laterales** oblicuos. **Pétalos** extendidos, libres, filiformes, linear lanceolados, dilatados hacia el ápice, obtusos, margen entero y extendido, 1-nervados, 11.6 mm de largo. **Labelo** unido a la columna, trilobado, cordado en la base, ligeramente más ancho entre los lóbulos laterales que entre los apicales, 6.7-7 x 8 mm; bicalloso, los callos pequeños, disco tricarinado, las carinas prominentes, romas, la central llegando hasta el seno apical; lóbulos laterales transversalmente subrectangulares, obtusos, margen eroso, 3 x 5.4 mm; lóbulo medio bifurcado, divaricado, los lobos digitiformes, ligeramente falcados, truncados, margen apical eroso, 2.9 x 1.0 mm. **Columna** delgada, recta, 8-9 mm de largo incluyendo el clinandrio. **Clinandrio** reducido, margen entero. **Antera** ovoide, 4-locular. **Polinios** 4, tipo ala de pájaro, desiguales, los interiores más pequeños. **Rostelo** apical, hendido. **Lóbulos laterales del estigma** pequeños, de alrededor de 1/3 del largo de la cavidad estigmática. **Nectario** penetrando 1/4 del ovario, no ornamentado. **Cápsula** no vista.

Epiphytic **herb. Stems** simple, cane-like, laterally compressed. **Leaves** numerous, distributed throughout the stem, sheath tubular, laterally compressed, blade elliptic, acuminate. **Spathe** absent. **Inflorescence** apical, paniculate, suberect, peduncle short, laterally compressed. **Flowers** simultaneous, resupinate, green, column and lip white. **Floral bracts** much shorter than the ovary, triangular, acuminate. **Ovary** terete, somewhat inflated in the apical 1/4. **Sepals** spreading, narrowly spathulate-oblanceolate, 5-veined. **Petals** spreading, filiform, linear-lanceolate, 1-veined. **Lip** three-lobed, cordate, somewhat wider across the lateral lobes than across the apical ones; bicallose, the calli small, tricarinate; lateral lobes transversely subrectangular, obtuse, margin erose; midlobe bifurcate, divaricate, the lobes finger-like, somewhat falcate, truncate, the apical margin erose. **Column** thin, straight. **Clinandrium** reduced, entire. **Pollinia** 4, bird-wing type, unequal. **Nectary** penetrating 1/4 of the ovary.

OTHER SPECIMENS: ECUADOR: Napo: Yasuni National Park, *D. Neill & W. Rojas 9907*, QCNE!

RECOGNITION: *Epidendrum aguaricoënse* belongs to the paniculatum group and is recognized by the large leaves, laterally compressed stems, 11-12.5 mm long sepals, linear-lanceolate petals, the more or less square lip, cordate at the base, the lateral lobes transversely subrectangular, the outer margin erose, and the apical lobes shorter than the lateral lobes. *Epidendrum agoyanense* has terete stems, generally smaller leaves, the petals narrower, filiform, the lip wider between the apical lobes than between the lateral ones, the column is shorter.

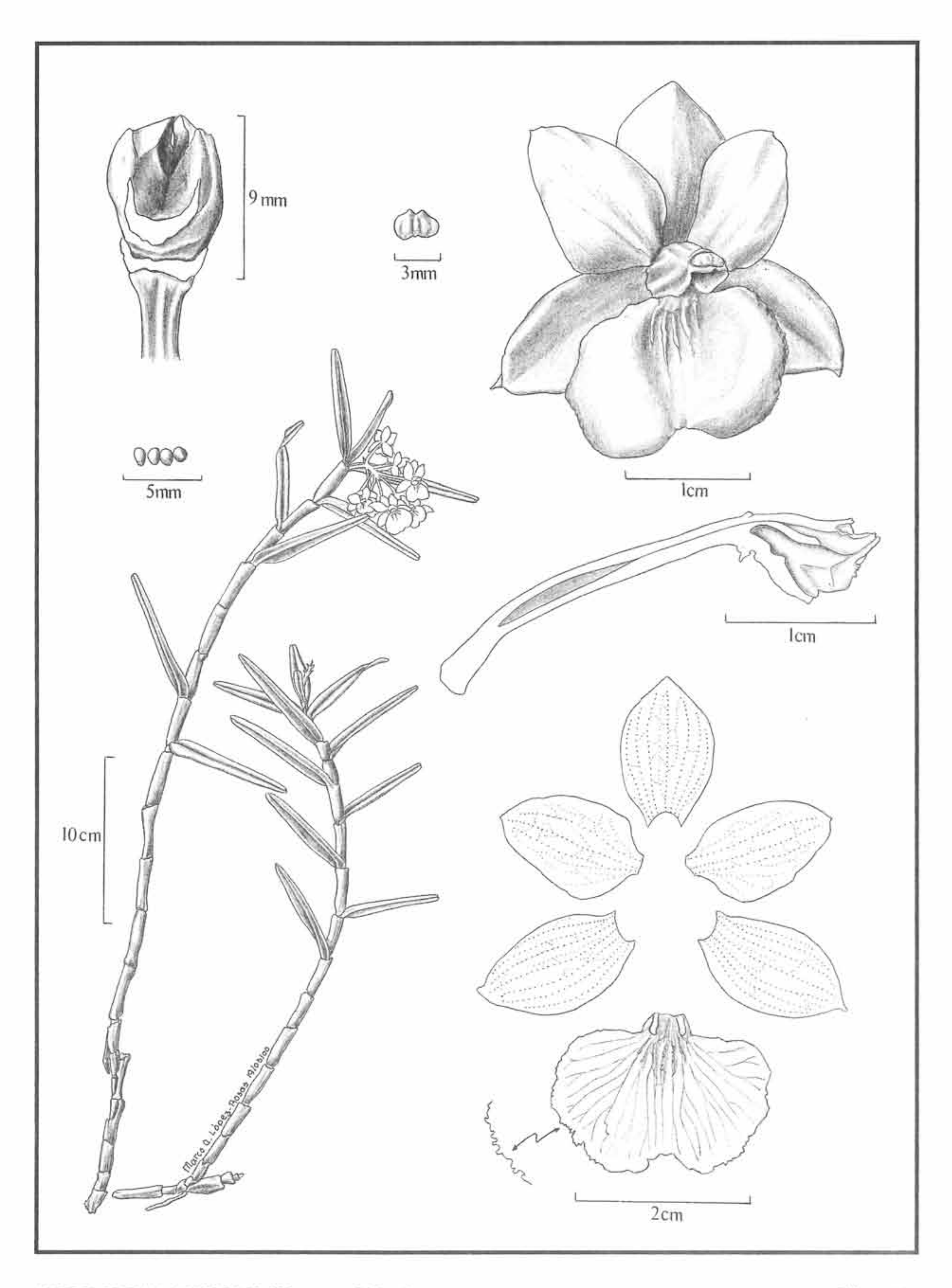
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DISTRIBUTION AND ECOLOGY: Found in the Amazon basin where Colombia, Ecuador and Peru meet, between 180 and 230 m altitude, epiphytic in primary forest understory, near the ground adjacent to seasonally inundated forest

CONSERVATION STATUS: DD. Data deficient. The species has been collected in national parks and reserves.

ETYMOLOGY: In reference to the town of Aguarico and the river of the same name, where it has been collected.

Authors: E. Hágsater & C. H. Dodson   Illustrator: M. López R.   Editors: E. Hágsater & L. Sánchez S.
Herbario AMO   Apartado Postal 53-123, 11320 México, D.F., MÉXICO



EPIDENDRUM ALLISONII Hágsater & Dodson Plate 405

EPIDENDRUM ALLISONII Hágsater et Dodson, *sp. nov.*

Type: ECUADOR: Napo: Km 72 on road Quito to Baeza at Cuyuja, 2450 m, epiphytic, in wet montane forest along river bank, 29 May 1986, ***C. H. y T. A. Dodson 16426.*** Holotype: QCNE (fide Dodson) Isotypes: RPSC! SEL! (illustration voucher).

Epidendro suavi (Rchb. f. & Warsc.) Løjtnant simile sed floribus carnosioribus, labello reniformi emarginato, sepalis petalisque latioribus et obtusis differens.

Hierba epífita o terrestre, ramificada, de más de 52 cm de alto. **Raíces** basales, carnosas, 2 mm de grosor. **Tallos** ramificados, tipo caña, teretes, 23-36 x 0.25-0.4 cm. **Hojas** numerosas, distribuidas a casi todo lo largo del tallo, alternas, vaina tubular, lateralmente aplanada, estriada y rugosa, 15-30 x 4-7 mm; lámina angostamente lanceolada, ápice desigualmente bilobado, margen entero, lisa, 2.5-7.7 x 0.6-0.9 cm. **Espata** ausente. **Inflorescencia** apical, racemosa, arqueada; 5 cm de largo; pedúnculo corto, terete, 1 cm de largo, provisto, ocasionalmente en la parte media, de una bráctea semejante a las florales, triangular, aguda, 4 mm de largo. **Brácteas florales** mucho más cortas que el ovario, triangulares, acuminadas, 3 mm de largo. **Flores** 10, simultáneas, color rojizo pardo. **Ovario** terete, liso, no ornamentado, 17 mm de largo. **Sépalos** extendidos, libres, elípticos, glabros, obtusos, cortamente aristados, margen entero, 7-nervados, el **dorsal** 16-17 x 10 mm; los **laterales** mucronados, 18 x 10 mm. **Pétalos** extendidos, libres, ovados, obtusos, apiculados, margen entero, 3-nervado, ramificados de manera de aparecer 7-nervados, 13.5-17 x 10 mm. **Labelo** oblicuamente unido a la columna, base truncada, reniforme, emarginado, margen eroso; ecalloso; disco provisto de 5-6 carinas prominentes en el área basal, desvaneciéndose hacia la parte media, 13-16 x 22-24 mm. **Columna** arqueada, el ápice arqueado hacia arriba, 9 mm de largo. **Clinandrio** corto, entero. **Antera** reniforme, 4-locular. **Polinios** 4, ovoides. **Rostelo** subapical, hendido. **Lóbulos laterales del estigma** pequeños. **Nectario** sin traspasar el perianto, no ornamentado. **Cápsula** no vista.

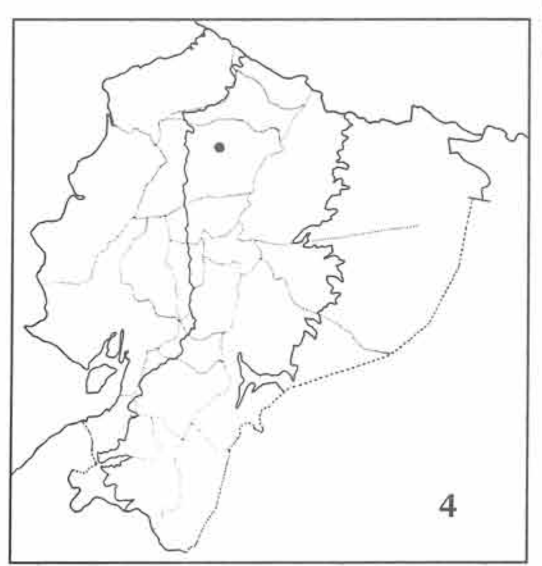
Epiphytic or terrestrial, branching **herb. Stems** cane-like, branching, laterally compressed. **Leaves** numerous, distributed nearly throughout the stems, sheath tubular, laterally compressed, striated and rugose, blade narrowly lanceolate, apex unequally bilobed. **Inflorescence** apical, racemose, arching, peduncle short. **Floral bracts** much shorter than the ovary, triangular, somewhat acuminate. **Flowers** 10, simultaneous, reddish-brown. **Sepals** spreading, elliptic, obtuse, short aristate, margin entire, 7-veined. **Petals** spreading, ovate, obtuse, apiculate, 3-veined, the lateral veins branching so as to appear 7-veined. **Lip** obliquely united to the column, base truncate, reniform, emarginate, margin erose, ecallose, disc provided with 5-6 prominent keels. **Column** arched, the apex arched upwards. **Clinandrium** short, entire. **Nectary** not surpassing the perianth.

OTHER SPECIMENS: ECUADOR: Napo: Papallacta, *Dodson et al. 17070,* MO, QCNE, RPSC!

DISTRIBUTION AND ECOLOGY: Only known from Ecuador, from the the type locality, between Papallacta and Cuyuja, terrestrial on roadside bank or epiphytic in humid montane forest, 2,450-3,100 m. Very common locally. Flowering in April and May.

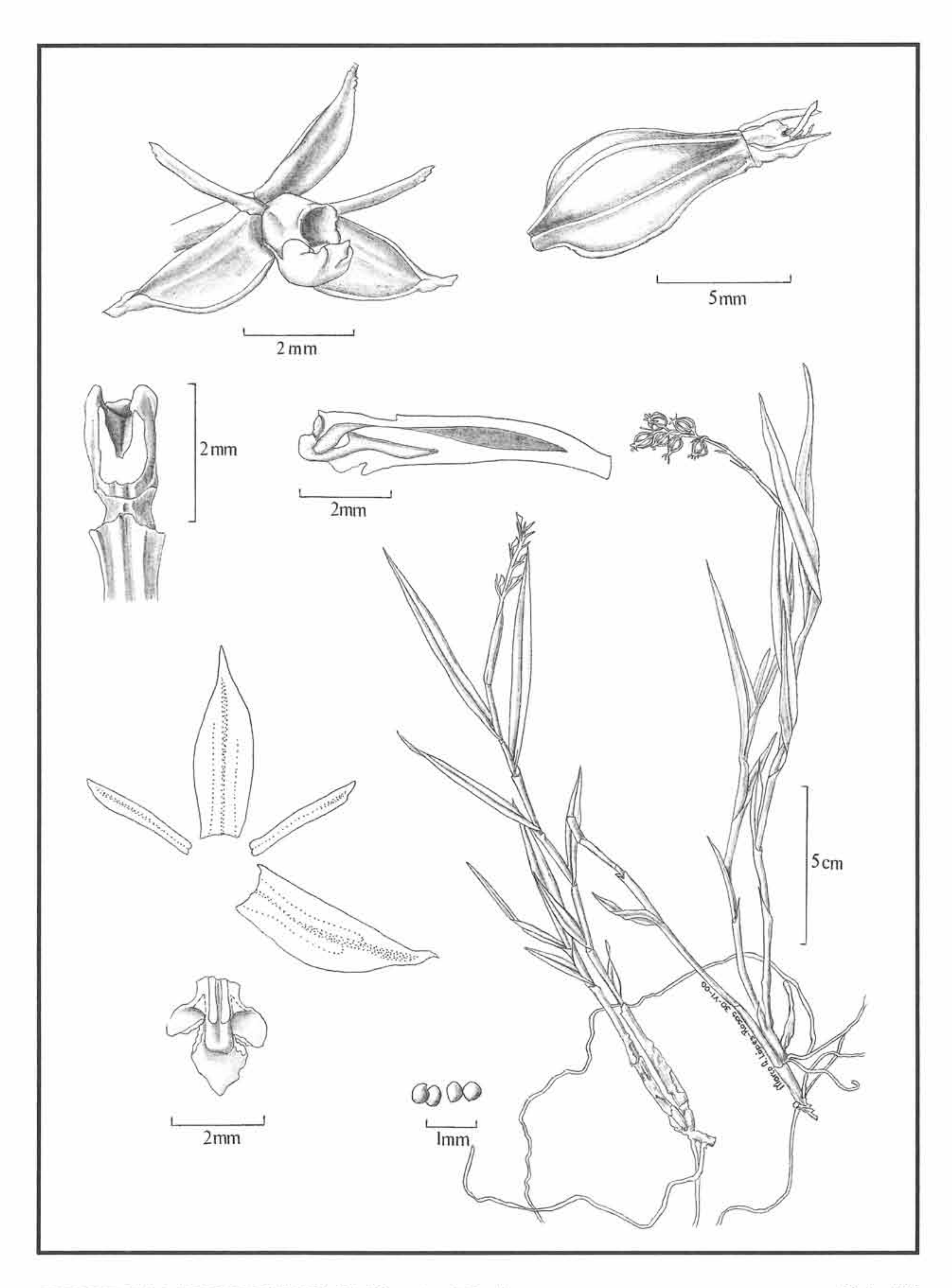
RECOGNITION: *Epidendrum allisonii* belongs to the *Diothonea* group, recognized by its branching habit, apically bilobed leaves, and short nutant inflorescence, the lip obliquely jointed to the column; the species has a bilobed lip, truncate at the base and ovate, obtuse petals, and column somewhat arched with its apex arched upwards. It is similar to *E. suavis* (Rchb.f. & Warsc.) Løjtnant which has an entire, cuneate lip, and narrower, acute petals. *Epidendrum diothonaeoides* Schltr. has narrower, acute sepals and petals, and the column is united to the column throughout and blunt, 1.2 mm long.

CONSERVATION STATUS: DD. Data deficient.



ETYMOLOGY: In honor of Captain David Allison, airline pilot with Canadian Air, who participated in the collection, and lives in the state of Washington near Seattle.

Authors: E. Hágsater & C. H. Dodson **Illustrator: M. López R.** **Editors: E. Hágsater & L. Sánchez S.**
Herbario AMO **Apartado Postal 53-123, 11320 México, D.F., MÉXICO**



EPIDENDRUM ALPICOLONIGRENSE Hágsater & Dodson

Plate 406

EPIDENDRUM ALPICOLONIGRENSE Hágsater et Dodson, *sp. nov.*

Type: ECUADOR: Pastaza: Beside Rio Pastaza, below Rio Negro, 1500 m, 18 March 1976, ***C. Luer, J. Luer & P. Taylor 895.*** Holotype: RPSC! (illustration voucher).

Epidendro zosterifolio F. Lehm. & Kraenzl. similare sed caulibus teretibus, foliis anguste ellipticis usque lanceolatis acuminatis, floribus minoribus albis, labelli lobulis magnitudine subaequalibus, ad marginem sinuatis, callo prominenti carnoso, clinandrio deminuto discrepans.

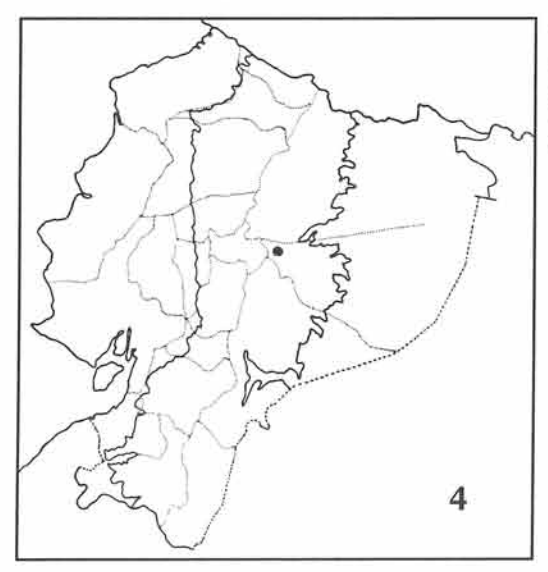
Hierba epífita, cespitosa, de 20-32 cm de alto. **Rizoma** corto. **Raíces** basales, delgadas, carnosas, de 0.5-1 mm de grosor. **Tallos** tipo caña, flexuosos, teretes, 10-20 x 0.05-0.1 cm. **Hojas** 5-6, articuladas, distribuidas en los 2/3 del tallo; vainas tubulares, lisas, la inferior no foliosa, 15-25 mm de largo; lámina angostamente elíptica a lanceolada, apice acuminado, gramínea, con una quilla dorsal prominente, desiguales, progresivamente más largas, 2-11.5 x 0.5-0.8 cm. **Espata** 1, de lados casi paralelos, agudas, 25-30 x 4-5 mm. **Inflorescencia** apical, del crecimiento maduro, racemosa, arqueada, cola de zorra pauciflora, con 10-15 flores, racimo de 3-5 x 1.1-1.5 cm, pedúnculo de 4.0-5.0 cm de largo. **Brácteas florales** muy delgadas, linear triangulares, acuminadas, del mismo hasta poco más largas que el ovario, 4-7 x 0.5 mm. **Ovario** terete, 4-6 mm de largo. **Flores** pequeñas, el labelo siempre orientado hacia el raquis, simultaneas, color blanco, fragancia no registrada. **Sépalos** extendidos, ovados, engrosados cerca del ápice, acuminados, agudos, 3-nervados, 4.0-4.4 x 1.3-1.4 mm. **Pétalos** extendidos, lineares, agudos, 1-nervados, 2.7 x 0.3 mm. **Labelo** unido a la columna, trilobado, de 2.6 x 2.1 mm; unicalloso, el callo laminar, prominente, carnoso; lóbulos laterales dolabriformes, margen sinuado, 0.8-0.9 x 0.5-0.7 mm; lóbulo medio triangular, redondeado, margen sinuado, 1.6 x 1.2 mm. **Columna** corta, gruesa, 2.0 mm de largo incluyendo el clinandrio. **Clinandrio** al mismo nived del ápice de la columna, entero. **Antera** no vista. **Polinios** 4, ovoides, lateralmente comprimidos, subiguales. **Rostelo** subapical, hendido. **Lóbulos laterales del estigma** pequeños. **Nectario** poco profundo, penetrando 1/4 del ovario, no ornamentado. **Cápsula** ovoidea, con un pedicelo delgado, corto, 4.5-5 x 3.8-5.0 mm, pedicelo 1.3 mm, cuello apical corto.

Epiphytic, caespitose **herb.** **Roots** basal, fleshy. **Stems** simple, cane-like, flexuous, terete. **Leaves** 3-6, narrowly elliptic to lanceolate, acuminate, grassy. **Spathe** 1, nearly parallel-sided, acute. **Inflorescence** apical, racemose, arching, fox-tail. **Floral bracts** as long as to somewhat longer than the ovary, acuminate. **Ovary** terete. **Flowers** simultaneous, the lip always oriented towards the rachis, white. **Sepals** spreading, ovate, acute to acuminate, 3-veined; laterals somewhat longer. **Petals** spreading, linear, acute, 1-veined. **Lip** united to the column, 3-lobed; unicallose, the callus laminar, fleshy; lateral lobes dolabrifom, margin sinuate; midlobe triangular, rounded, margin sinuate. **Column** short, thick, straight. **Clinandrium** reduced, margin entire. **Rostellum** subapical, slit. **Nectary** penetrating one fourth of the ovary, unornamented.

OTHER SPECIMENS: None seen.

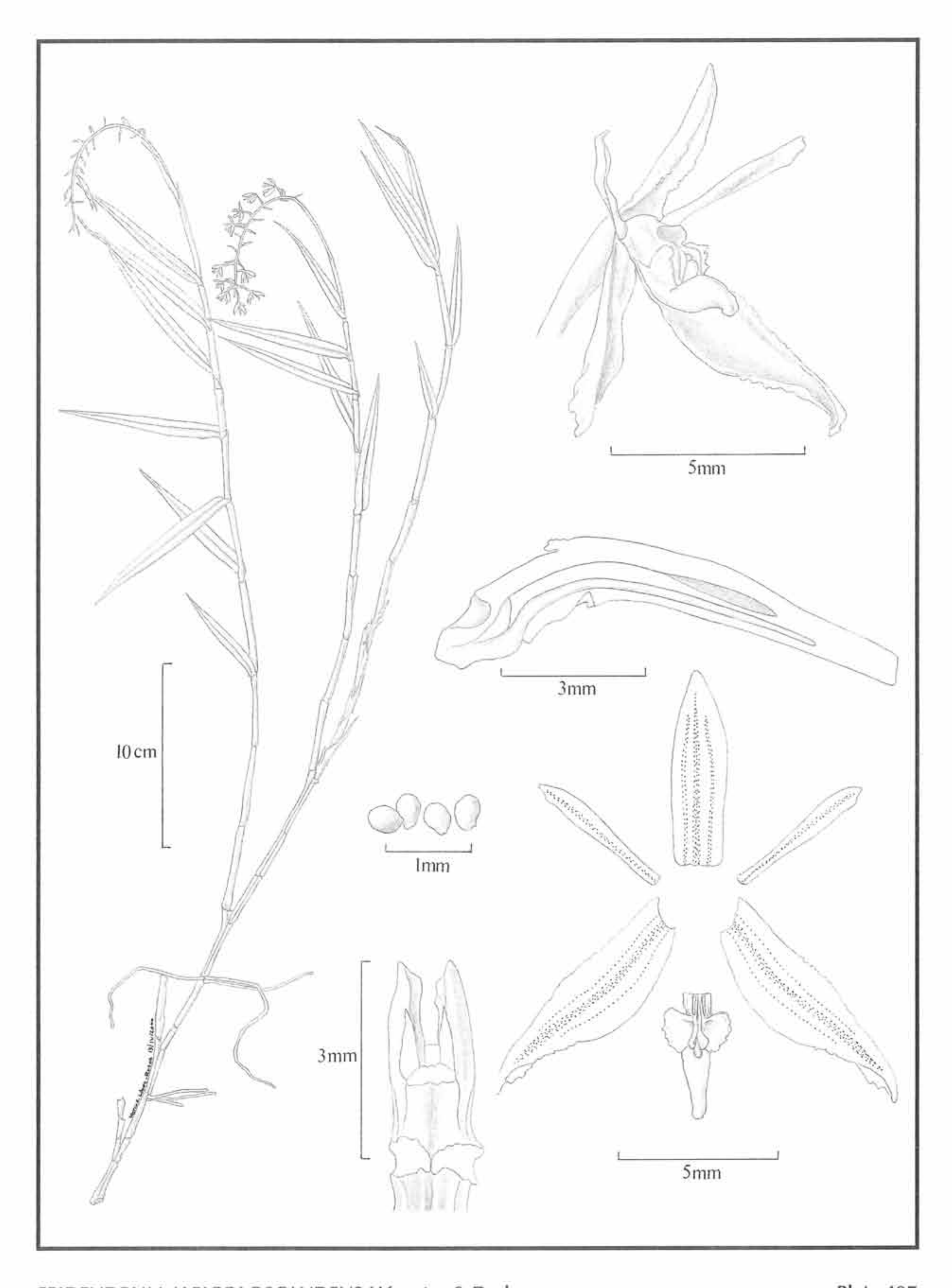
DISTRIBUTION AND ECOLOGY: Known only from Ecuador. Epiphytic in woods, at 1500 m altitude. Flowering and fruiting in March.

RECOGNITION: *Epidendrum alpicolonigrense* belongs to the alpicolum group, alpicolum subgroup and is recognized by the terete stems, narrowly elliptic to lanceolate, acuminate leaves, small, white flowers, somewhat similar lobes of the lip, sinuate margin, unicallose lip, the calli prominent, fleshy and reduced clinandrium. Similar to *Epidendrum zosterifolium* but this has ancipitose stems, elliptic leaves, larger, greenish white flowers, with the middle near the apex of sepals and lip deep green, lobes of the lip unequal, margin entire, bicallose, midlobe about 3 times longer than wide, and the clinandrium erose and prominent. *Epidendrum pucunoënse* Hágsater & Dodson has ancipitose stems, cream-yellow to white flowers, lobes of the lip entire, bicallose, the large orbicular lateral lobes, larger in area than the midlobe, emarginate, entire, prominent clinandrium. *Epidendrum alopecurum* Schltr. from Bolivia, has a large inflorescence, with smaller flowers.



CONSERVATION STATUS: DD. Data deficient.

ETYMOLOGY: From the latin *alpicolum*, in reference to the species group to which it belongs (that species, in turn, found on high mountains, similar to the Alps), and *nigrense*, in reference to the locality where it was collected, the Río Negro.



EPIDENDRUM ALPICOLOSCANDENS Hágsater & Dodson

Plate 407

EPIDENDRUM ALPICOLOSCANDENS Hágsater et Dodson, *sp. nov.*

Type: ECUADOR: Loja: S slopes of Cerro Villonaco, summit of Loja-Catamayo road, 4°00' S 79°16' W, ca. 2700 m, epiphyte in disturbed montane forest, 18 Jun 1979, ***B. Løjnant, A. & U. Molau 15089.*** Holotype: GB! (illustration voucher).

Epidendro facisepalo F. Lehm. & Kraenzl. simile sed habitu scandenti, foliis latioribus, floribus majoribus, sepalis lateralibus quam dorsali manifeste longioribus, margine eroso undulato, labelli lobulis lateralibus ad marginem erosis, lobulo medio plus quam duplo longiore quam latiore abhorrens.

Hierba epífita, rastrera, de simpodio erecto, de más de 60 cm de alto. **Raíces** basales, escasas, carnosas, 0.5-1.5 mm de grosor. **Tallos** sencillos, tipo caña, teretes, producidos a 6-9 cm de la base del tallo anterior, 25-60 x 0.15-0.3 cm. **Hojas** 5-7, distribuidas a lo largo de la mitad superior de los tallos; vainas tubulares, finamente estriadas, 2-4.2 x 0.2-0.3 cm; lámina lanceolada, acuminada, margen entero, lisa, 4-10.8 x 0.5-0.85 cm. **Espatas** 1-2, tubulares, conduplicadas, acuminadas, 4.6-7 x 0.2-0.3 cm. **Inflorescencia** apical, florece una sola vez, racemosa, nutante, 14-18 cm de largo; pedúnculo suberecto, cubierto casi en su totalidad por las espatas, 7.5-9.4 cm de largo. **Brácteas florales** más cortas que el ovario, triangulares, acuminadas, 5-10 mm de largo. **Flores** 26-44, simultáneas, resupinadas, color naranja amarillento pálido, sépalos y pétalos con tintes verduscos en el lado externo, base del labelo blancuzco, fragancia no registrada. **Sépalos** libres, angostamente elípticos, agudos, 3-nervado, la nervadura media ligeramente engrosada, el **dorsal** extendido, margen entero, 7 x 2 mm; los **laterales** entreabiertos, oblicuos, con una quilla dorsal, margen en algunas secciones, finamente eroso undulados, 8.6 x 2.7 mm. **Pétalos** extendidos, libres, linear oblanceolados, agudos, margen entero, 1-nervado, 5.6 x 0.75 mm. **Labelo** unido a la columna, trilobado, base truncada, 4 x 2.5 mm; bicalloso, callos alargados, aplanados, con una carina central corta, roma, intercallosa; lóbulos laterales dolabriformes, margen eroso, 1 x 1.5 mm; lóbulo medio angostamente triangular, redondeado, engrosado carnoso, margen escasamente sinuado, 2.3 x 0.9 mm. **Columna** corta, formando un arco ligero con el ovario, 3 mm de largo. **Clinandrio** reducido, entero. **Antera** no vista. **Polinios** 4, ovoides, desiguales. **Rostelo** apical, hendido. **Lóbulos laterales del estigma** no vistos. **Nectario** penetrando ¾ partes del ovario, no ornamentado. **Cápsula** no vista.

Epiphytic, climbing **herb. Stems** simple, cane-like, terete, the new stem produced a short way up the previous stem. **Leaves** distributed along the upper half of the stems, sheaths tubular, finely striated; blade lanceolate, acuminate, margin entire. **Spathes** 1-2, tubular-conduplicate, acuminate. **Inflorescence** apical, flowering only once, racemose, nodding. **Floral bracts** shorter than the ovary, triangular, acuminate. **Flowers** numerous, simultaneous, resupinate, pale orange-yellow, sepals and petals faintly greenish-tinted outside, lip whitish. **Sepals** narrowly elliptic, acute, 3-veined, the median vein thickened, the laterals aristate, margins partially erose-undulate, the keel erose. **Petals** linear-oblanceolate, acute, margin entire, 1-veined. **Lip** 3-lobed, base truncate, bicallose with a short central keel between the calli; lateral lobes dolabriform, margin erose; midlobe narrowly triangular, rounded, fleshy, thickened. **Column** forming an arch with the ovary, short. **Clinandrium** reduced, entire. **Rostellum** apical, slit. **Nectary** penetrating three fourth of the ovary.

OTHER SPECIMENS: None seen.

RECOGNITION: *Epidendrum alpicoloscandens* belongs to the alpicolum group which is recognized by the simple stems, long, narrow spathes, and numerous flowers with fleshy lip, triangular midlobe and roundish lateral lobes; the species has a repent habit, the new stem produced at 6-9 cm from the base of the previous stem, narrow, lanceolate leaves up to 8.5 mm wide, dorsal sepal 7 mm long and the lateral lobes of the 4 mm long lip upright, embracing the apex of the column. *Epidendrum falcisepalum* F. Lehm. & Kraenzl. has shorter plants (30-35 cm), leaves up to 5 mm wide, shorter inflorescence, fewer flowers, sepals 6 mm long, the lateral lobes of the lip bilobed and upright, about subequal to the midlobe, margin entire, and the flower in general has a heavier aspect.

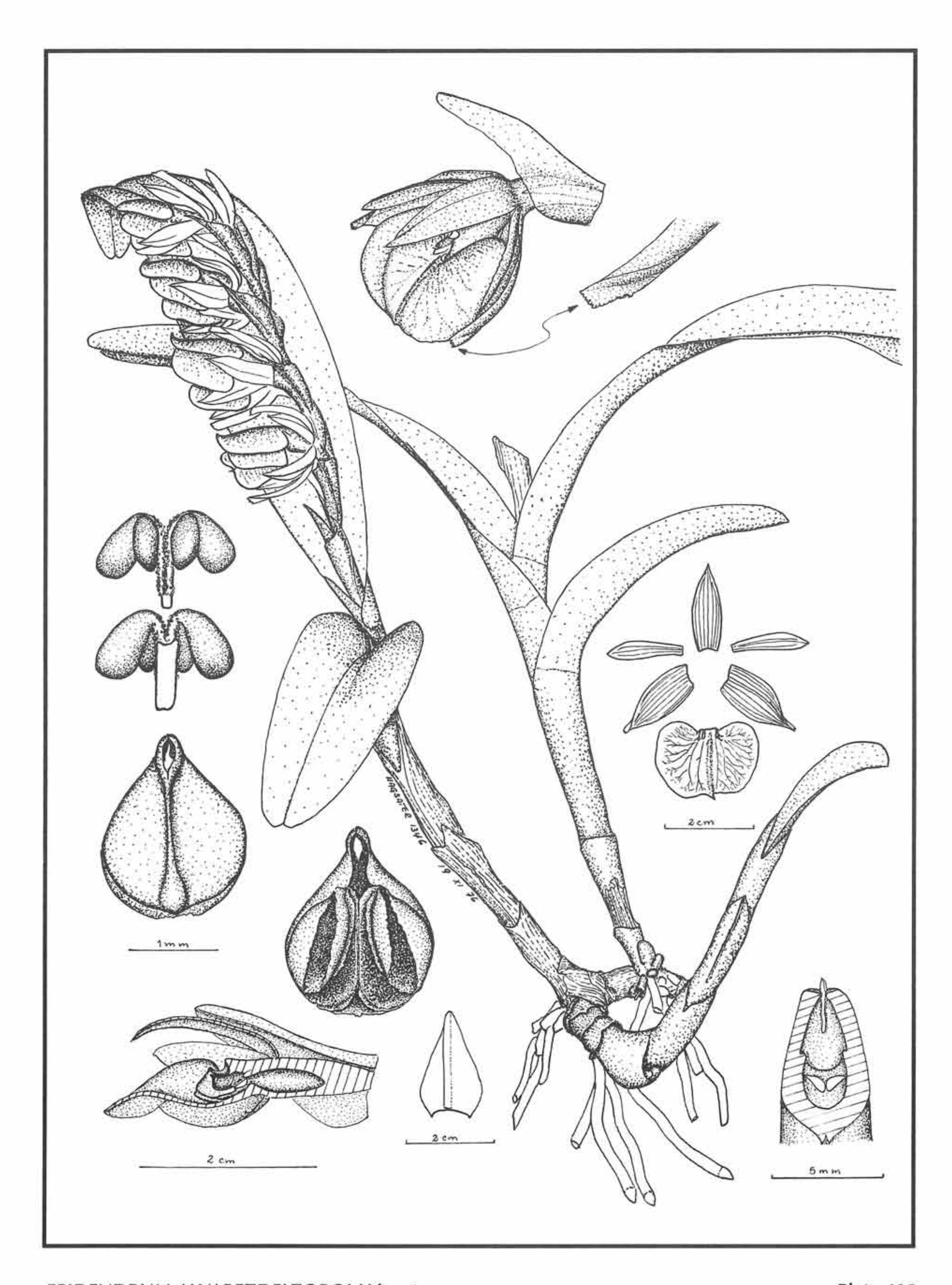
DISTRIBUTION AND ECOLOGY: Known only from Ecuador, from the type locality, slopes of the Cerro Villonaco, in disturbed forest, ca. 2700 m altitude. Flowering in June.

CONSERVATION STATUS: DD. Data deficient.

ETYMOLOGY: From the Latin *scandere* climbing, and *alpicolum*; in reference to the straggling and climbing habit of the plant; all other known species of the *alpicolum* subgroup are caespitose.

4

Authors: E. Hágsater & C. H. Dodson **Illustrator: M. López R.** **Editors: E. Hágsater & L. Sánchez S.**
Herbario AMO Apartado Postal 53-123, 11320 México, D.F., MÉXICO



EPIDENDRUM ALVAREZDELTOROI Hágsater — **Plate 408**

EPIDENDRUM ALVAREZDELTOROI Hágsater, *sp. nov*

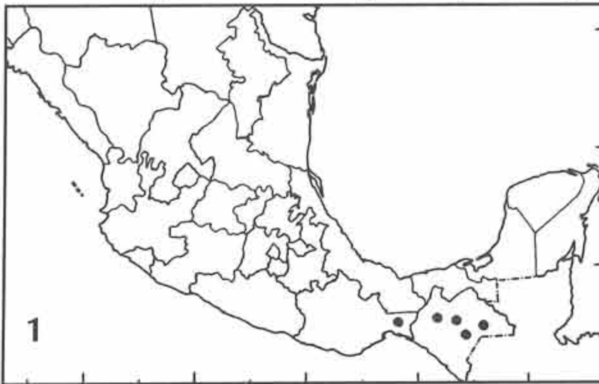
Type: Mexico: Chiapas: Huistán-Oxchuc.ca. 2000 m, col. 30 Dec. 1971, pressed 19 Nov. 1976, ***E. Hágsater 1346.*** Holotype: AMO! (illustration voucher). Isotypes: AMES! K! MEXU! QCNE! Clonotypes: 7 Nov. 1984, AAU! CHIP! ENCB! FCME! F! G! MO! NY! P! S! SEL! US! UVAL! XAL! W! 26 Oct. 1985, CAS! IBUG! LL! MICH! UAMIZ! 7 Jan. 2000, AMO! IEB!

Epidendro coriifolio Lindley affine sed foliis 2 vel 3 anguste ellipticis usque oblongis coriaceis, ad apicem inaequaliter bilobatis, inflorescentia folia non superantia, floribus simultaneis viridibus noctu valde fragrantibus, bracteis conduplicatis fere rectis, apice anguste rotundato disinguibilis.

Hierba epífita, de simpodio rastrero o escandente, subcespitosa, 15-25 cm de alto. **Raíces** basales, de los 4-5 nudos basales de los tallos, carnosas, gruesas, 2-3 mm de grosor. **Tallos** sencillos, tipo caña, lateralmente comprimidos arriba, rectos, donde cada tallo nuevo se origina a unos 2 cm de la base del tallo anterior, 7-12 x 0.5-1.1 cm. **Hojas**, 2-3, dísticas, distribuidas hacia el ápice del tallo; vainas tubulares, lisas, hasta de 3.5 cm de largo; lámina angostamente elíptica a oblonga, ápice desigualmente bilobado, margen entero, subcoriácea, lisa, verde; 6-20 x 1.7- 3.5 cm. **Espata** ausente. **Inflorescencia** apical, del tallo maduro, florece una sola vez, dística, secundiflora (todas las flores abiertas hacia el mismo lado del raquis), erecta, 7-14 cm de largo; raquis lateralmente comprimido, ancipitoso, zigzag, no ornamentado, brácteas del escapo 1-3, espaciadas, sin cubrir el escapo, conduplicadas, de 14-30 mm de largo. **Flores** 4-10, casi simultáneas; concolor, verde manzana, fuerte fragancia nocturna seminal, muy desagradable. **Brácteas florales** más largas que el pedicelo, hasta tan largas como el pedicelo y el perianto, ovadas, conduplicadas, abiertas, no imbricadas, no agudas, casi rectas, ápice angostamente redondeado, 18-34 mm de largo. **Ovario** no inflado, terete, no ornamentado, 9-17 mm de largo. **Sépalos** entreabiertos a más o menos extendidos, libres, quilla dorsal prominente y dentada en los laterales, glabros, coriáceos, 7-nervados; angostamente ovados, agudos, margen extendido, 14-20 x 4.5-6.5 mm; los **laterales** 7-8.5 mm de ancho. **Pétalos** entreabiertos, angostamente oblanceolados, obtusos, margen extendido, eroso hacia el ápice, suculentos, 3-nervados, 13-17 x 2-4.3 mm. **Labelo** unido a la columna, entero, subcuadrado a reniforme, base cordada, ápice truncado, emarginado a mucronado, márgenes enteros, bicalloso, una carina central roma, 10-17 x 17-24 mm. **Columna** recta, gruesa, 7-10 mm de largo incluyendo el clinandrio. **Clinandrio** reducido, la antera totalmente expuesta por arriba, margen entero. **Antera** ovada, con una quilla roma al frente, 4-locular. **Polinios** 4, obovoides, lateralmente comprimidos, subiguales; caudículas suaves y granulosas, un poco más largas que los polinios; viscidio semilíquido, transparente. **Rostelo** subapical, hendido. **Lóbulos laterales del estigma** de 1/3 del largo de la cavidad estigmática. **Nectario** penetrando 1/2 del ovario, no ornamentado. **Cápsula** elipsoide, 4 x 1.8 cm, pedicelo y cuello apical muy cortos.

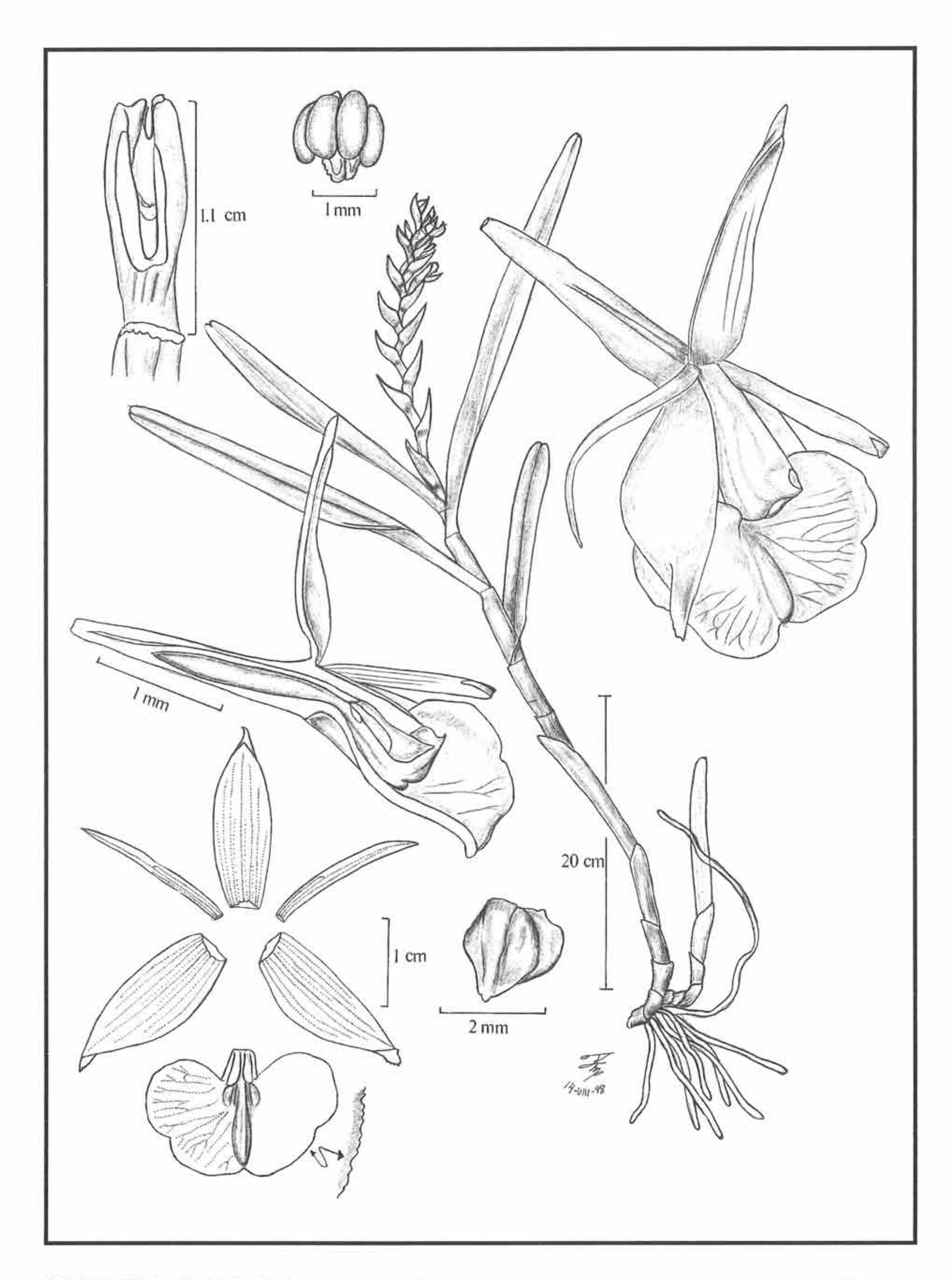
Epiphytic, creeping, subcaespitose **herb**. **Stems** simple, laterally compressed, erect. **Leaves** 2-3, distichous, narrowly elliptic to oblong, apex bilobed, coriaceous. **Inflorescence** terminal from mature growth, distichous, erect, secund (flowers opening to one side of the rachis), laterally compressed, ancipitose, zigzag. **Flowers** 4-10, nearly simultaneous, concolor, apple-green, strongly seminal scented by night. **Bracts** longer than ovary to as long as ovary and perianth, conduplicate, apex narrowly rounded, nearly straight, not imbricating. **Ovary** not inflated. **Sepals** narrowly ovate, dorsally keeled, 7-veined. **Petals** narrowly oblanceolate, apex obtuse, 3-veined. **Lip** entire, subquadrate to reniform, base cordate, apex truncate, emarginate to mucronate, bicallose with a median low rounded keel. **Column** straight, clinandrium reduced, rostellum slit. **Anther** ovate, 4-loculed, with a low keel in front. **Pollinia** 4, obovoid, laterally compressed, subequal, caudicles soft and granulose, slightly longer than the pollinia, viscidium semiliquid, transparent. **Nectary** deep, penetrating half the pedicel. **Capsule** ellipsoid.

OTHER REPRESENTATIVE SPECIMENS SEEN: MEXICO: CHIAPAS: *Breedlove 23277, 34784, 51286, 56175, 56193, 58402,* CAS! Cabrera *Chacón 3* AMO! *Carlson 2287* SEL! *Croat 46534* AMO! *Espejo 3055* AMO! CHIP! UAMIZ. *Carlson*, SEL! *den Held FC53* U! *Oestlund 4465* AMES(x2)! US! *4489* AMES! *4535* AMES! AMO! HB! MEXU! S! SEL! US! *5647* AMES! BM! *Soto 4675* AMO! MEXU! *Oberg 48*, SEL! *Xolocotzi X-580* MEXU (x2)! **OAXACA:** *Salazar 5584* AMO! *Salazar 5586* AMO (x2)!
DISTRIBUTION AND ECOLOGY: Mexico and probably adjacent Guatemala, endemic to the meseta central of Chiapas, and the Sierra de Tres Picos in Oaxaca, in oak, pine-oak and mixed forests with pine and *Liquidambar*, epiphytic on oaks between 1300 and 2000 m. Flowering November to January, fruiting in April.
RECOGNITION: *Epidendrum alvarezdeltoroi* belongs to the coriifolium group and is recognized by the short stems with 2-3 coriaceous leaves and the erect, distichous, inflorescence not surpassing the leaves, with large, distichous, secund, simultaneous flowers, the sepals 14-20 mm long,; the rachis is ancipitose, zigzag and the bracts are not imbricating, nearly straight and narrowly rounded at the apex; it has a very strong seminal, pungent fragrance at night. *Epidendrum coriifolium Lindl.* has semiterete, fleshy leaves, the floral bracts arched inwards, and the inflorescence surpasses the apical leaf, the flowers have a brownish or purple hue. *Epidendrum palmense* Ames is distinguished by the acute floral bracts. *Epidendrum beharorum* Hágsater, endemic to Guatemala, has longer, much larger plants, to 45 cm, long (22-43 mm), spreading floral bracts and successive flowers.



CONSERVATION STATUS: DD. Data deficient. Its habitat is endangered because it grows on oaks which are used for charcoal. Many of the collections have been made in or around the Montebello Lagoons National Park, which was largely destroyed during the fires of the very dry year of 1998.
ETYMOLOGY: Dedicated to Miguel Alvarez del Toro, who dedicated his life to conserve the of wildlife of Chiapas.
REFERENCES: Ames, O., & D. S. Correll, 1952. Orchids of Guatemala. **Fieldiana: Bot.** 26(1): 326-7. Williams, L.O., 1951. Orchidaceae of Mexico. **Ceiba** 2(2): 145-6.

Authors: E. Hágsater **Illustrator: E. Hágsater** **Editors: E. Hágsater & L. Sánchez**
Herbario AMO **Apartado Postal 53-123, 11320 México, D.F., MÉXICO**



EPIDENDRUM AMAZONICORIIFOLIUM Hágsater

Plate 409

EPIDENDRUM AMAZONICORIIFOLIUM Hágsater, *sp. nov.*

Type: VENEZUELA: Bolivar: Caroní, Cerro Acopán, 1600 m, Octubre 1947, ***F. Cardona 2324.*** Holotype: US! (illustration voucher). Isotypes: NY! P!

Epidendro allochrono Hágsater similare sed foliis 3-4(6) angustioribus, bracteis multo longioribus et acutis, apice acuto ad rhachim parallelo, petalis lineari-lanceolatis uninervatis recedens.

Hierba epífita, cespitosa, 25-65 cm de alto. **Raíces** basales, carnosas, gruesas, 3 mm de grosor. **Tallos** sencillos, tipo caña, rectos, lateralmente comprimidos, 8-41 X 0.7-1.2 cm. **Hojas** 3-4[6], dísticas, distribuidas en la mitad apical del tallo, subcoriáceas; vainas tubulares, lateralmente comprimidas, ancipitosas, estriadas, 1.5-7.5 cm de largo; lámina articulada, angostamente oblonga, ápice desigualmente bilobado, margen entero algo revoluto, lisa, verdes, (9)15-28 x 1.5-2.8 cm. **Espata** ausente. **Inflorescencia** apical, del tallo maduro, florece una sola vez, racemosa (excepcionalmente ramificada), dística, erecta, flexuosa, ca. 13-35 cm de largo (se desarrolla progresivamente); raquis lateralmente comprimido, ancipitoso, no ornamentado; brácteas del pedúnculo hasta 7, semejantes a las florales pero mucho más largas, casi paralelas al pedúnculo, imbricadas, conduplicadas, 25-81 x 5-8 mm. **Brácteas florales** mucho más largas que el ovario, conduplicadas, ovadas, agudas, 18-43 mm de largo; se desarrollan progresivamente, después de antesis son extendidas, no imbricadas. **Flores** hasta 20, sucesivas, no resupinadas, desarrollándose y abiertas una o dos a la vez, verdes, fragancia no registrada. **Ovario** grueso, terete, no ornamentado, 20-22 mm de largo. **Sépalos** entreabiertos a más o menos extendidos, libres, quilla dorsal prominente en los laterales, glabros, coriáceos, elípticos, aristados, margen extendido, 5-7 nervados, 18-22 x 5-7.5; el **dorsal** reflexo; los **laterales** más anchos que el dorsal. **Pétalos** libres o plegados a los sépalos laterales, linear-lanceolados, agudos, margen extendido, 1-nervados, 17-18 x 1.5-2 mm. **Labelo** unido a la columna, obreniforme, emarginado y mucronado, margen entero a finamente eroso, 10-14 x 13-20 mm; ecalloso; carinado, la carina gruesa y roma formando el mucrón grueso. **Columna** recta, gruesa, 10-14 mm de largo. **Clinandrio** reducido, entero. **Antera** ovoide, aguda, con una quilla roma al frente, 4-locular. **Polinios** 4, obovoides, lateralmente comprimidos, subiguales; caudículas suaves y granulosas, más largas que los polinios. **Rostelo** subapical, hendido. **Lóbulos laterales del estigma** 1/4 del largo de la cavidad estigmática. **Cápsula** elipsoide, 48 x 28 mm, pedicelo y cuello reducidos.

Epiphytic, caespitose **herb**. **Stems** simple, laterally compressed, ancipitose, erect. **Leaves** 3-4[6], distichous, narrowly oblong, apex unequally bilobed, subcoriaceous, green. **Inflorescence** apical from mature growth, racemose (exceptionally 1-branched), distichous, erect, flexuose; rachis laterally compressed, ancipitose. **Floral bracts** much longer than the ovary, conduplicate, acute, not imbricated, except for the basal bracts which are much longer and imbricating. **Flowers** up to 20, successive, developing and open one or two at a time, green. **Ovary** thick, terete. **Sepals** elliptic, aristate, dorsally keeled, 5-7-veined. **Petals** linear-lanceolate, acute, free or adnate to lateral sepals, 1-veined. **Lip** obreniform, emarginate-mucronate, margin entire to finely erose; ecallose. **Column** straight. **Clinandrium** reduced. **Anther** ovate, acute, 4-celled, with a low keel in front. **Rostellum** slit. **Capsule** ellipsoid, with reduced pedicel and neck.

OTHER SPECIMENS: BOLIVIA: *Bang s.n.* NY! **FRENCH GUYANA:** *Berg 6609* CAY! **GUYANA:** *Cardona 2324* NY! *Christenson 1939* BRG! US *Kelloff 1356* BRG! *Maguire 35381* N! *Renz 14100* Herb. Renz! **PERU:** *Vargas 5542* AMES! CUZ! *Killip 24618* AMES! US! *Schunke 1291, 1884* F! **VENEZUELA:** *Steyermark 106006* AMES! NY! *Dunsterville 403* K! *Cardona 2048* US! Ibid. *2324* P! US! *Pannici 1915* AMES! *Phelps s.n.* NY! *Steyermark 364* NY! Ibid. *1199* AMES! NY! Ibid. *60223* AMES! Ibid. *75081* AMES! Ibid. *88042* AMES! *Ibid. 92285* AMES! NY! F! K! *Ibid. 104267* AMES! *Tate 1226* NY! *Renz 8685, 9568* Herb. Renz!

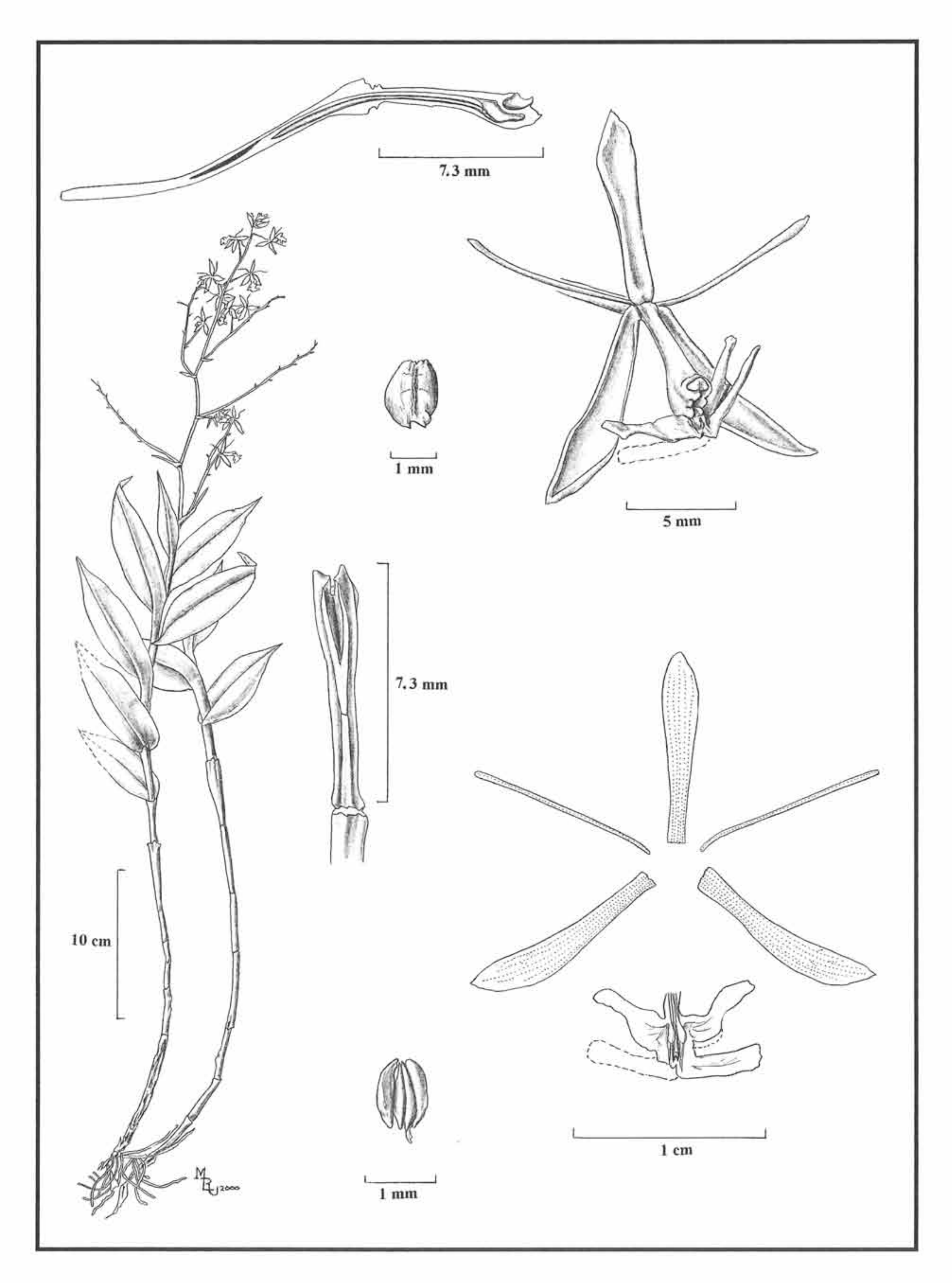
OTHER RECORDS: PERU: *Bennett 6561*, illustration, xerox, AMO!



DISTRIBUTION AND ECOLOGY: Widespread around the upper reaches of the Amazon Basin from the French Guyana to Bolivia, in cloud forests, elfin forests, and other wet forests, epiphytic or terrestrial, 950-1950 m altitude (reported at 300 m in French Guyana in Kaeiteur Falls National Park). Flowering throughout the year.

RECOGNITION: *Epidendrum amazonicoriifolium* is distinguished by caespitose growth, stems with 3-4[6] coriaceous, strap-like leaves, the erect, distichous, ancipitose inflorescence with open, long acute floral bracts, the apex pointed parallel to the rachis, successive flowers, produced 1-2 at a time, and 1-veined, linear-lanceolate petals. It is closely related to *Epidendrum villotae* Hágsater & Dodson from the Pacific lowlands of Colombia and Ecuador, which can be distinguished by the 3-veined, oblanceolate petals and wider leaves. *Epidendrum coriifolium* Lindl.,with semiterete, thick leaves is endemic to Costa Rica and northern Panama. *Epidendrum allochronum* Hágsater has 2-3(4) leaves which are wider (1.9-3.2 cm), and the floral bracts are rounded and extended, the apex not pointing inwards. *Epidendrum imitans* Schltr. from the eastern slope of the Andes in Central Ecuador has closely imbricating floral bracts with the apex rounded, several flowers flowering simultaneously, linear petals and a subtriangular lip.

CONSERVATION STATUS: DD. The species is widespread.
ETYMOLOGY: In reference to the Amazon basin where the species is widespread along the upper reaches, and *E. coriifolium*.



EPIDENDRUM ANGUSTILOBOPANICULATUM Hágsater & Dodson

Plate 410

EPIDENDRUM ANGUSTILOBOPANICULATUM Hágsater et Dodson, *sp. nov.*

Type: ECUADOR: Carchi, Trail from Rafael Quindis mountain finca above Rio Verde, 0°52'N 78°8'W, 1600 m, 27 Nov. 1987, ***W. S. Hoover & S. Wormley 1753***. Holotype: MO! (illustration voucher).

Epidendro peralto Schltr. simile sed floribus subtilibus magis tenuibus et minoribus, labello tetralobato, lobis elongatis angustis truncatis, lobis basalibus aliquot retrorsis structuram anchoriformem formantibus, lobulis apicalibus divaricatis differens.

Hierba epífita, de 64 cm de altura. **Raíces** basales, carnosas, delgadas, 0.6-1.5 mm de grosor. **Tallos** sencillos, tipo caña, teretes, erectos, de 41 x 0.26-0.41 cm. **Hojas** 8-9, alternas, distribuidas a lo largo de la mitad apical del tallo, lisas; vaina tubular, 1.8-3.7 cm de largo; lámina elíptica, acuminada, carinada dorsalmente, margen entero, lisa, 6.2-9.5 x 1.4-2.9 cm. **Espata** ausente. **Inflorescencia** apical, paniculada, florece una sola vez, 24 cm de largo; provista de 5 racimos, cada uno de ellos con una bráctea basal, triangular, acuminada, margen entero, 7-3.5 x 0.12-0.33 cm; pedúnculo corto, 2.1 cm de largo, desprovisto de brácteas. **Bráctea floral** mucho más corta que el ovario, triangular, aguda, 3-4 mm de largo. **Flores** ca. 60, simultáneas, resupinadas, muy delgadas, sin datos de color ni fragancia. **Ovario** terete, delgado, no ornamentado, 17-19 mm de largo. **Sépalos** reflexos, libres, angostamente oblanceolados, agudos, margen entero y extendido, 5-6 nervados, 10-10.5 x 0.17-2 mm; los **laterales** ligeramente falcados. **Pétalos** reflexos, libres, filiformes, obtusos, margen extendido y entero, 1-nervado, 10 x 0.25 mm. **Labelo** unido a la columna, cuatro lobado, truncado en la base, tan ancho entre los lóbulos laterales como entre los apicales, 5.1 x 9.2 mm; bicalloso, los callos alargados hasta cerca del istmo; disco provisto de 3 carinas agudas, las carinas laterales delgadas; los lóbulos basales formando una estructura ancoriforme, retrorsos, angostamente oblongo ovados, truncados, margen algo sinuoso, dos veces más largos que anchos, 3.8 x 2 mm; lóbulos apicales divaricados, angostamente rectángulares, truncados, margen apical irregular, 4.6 x 1.2 mm. **Columna** recta, delgada, con un par de dientes apicales ascendentes a cada lado, 7.3 mm de largo. **Clinandrio** reducido, entero. **Antera** obovoide, 4-locular. **Polinios** 4, tipo ala de pájaro, desiguales, los interiores menores. **Rostelo** apical, hendido. **Lóbulos laterales del estigma** pequeños. **Nectario** penetrando ¼ del ovario, no ornamentado. **Cápsula** no vista.

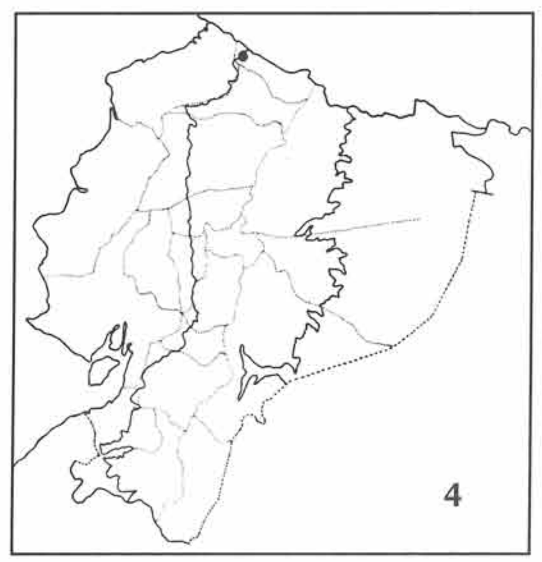
Epiphytic, caespitose **herb. Roots** thin. **Stems** cane-like, terete. **Leaves** elliptic, acuminate. **Inflorescence** apical, paniculate, erect, on a short peduncle. **Flowers** numerous, simultaneous, resupinate, very slender. **Floral bracts** much shorter than the ovary, triangular, acuminate. **Ovary** terete, slender. **Sepals** reflexed, free, narrowly oblanceolate, acute, 5-6-veined. **Petals** reflexed, filiform, obtuse, 1-veined. **Lip** united to the column, 4-lobed, equally wide across the lateral and the apical lobes; bicallose, the calli long, nearly reaching the isthmus, disc provided with 3 keels; lateral lobes form an anchor-shaped structure, retrorse, narrowly oblong-ovate, truncate, twice as long as wide; apical lobes divaricate, narrowly rectangular, truncate. **Column** straight, thin, with an ascending tooth on each side at the apex. **Anther** obovoid, 4-celled. **Pollinia** bird-wing type, unequal, the inside pair smaller. **Rostellum** apical, slit. **Nectary** penetrating one fourth of the ovary.

OTHER SPECIMENS: None seen.

DISTRIBUTION AND ECOLOGY: Known only from the type locality in north-western Ecuador, near the Colombian border, epiphytic, at 1600 m altitude. Flowering in November.

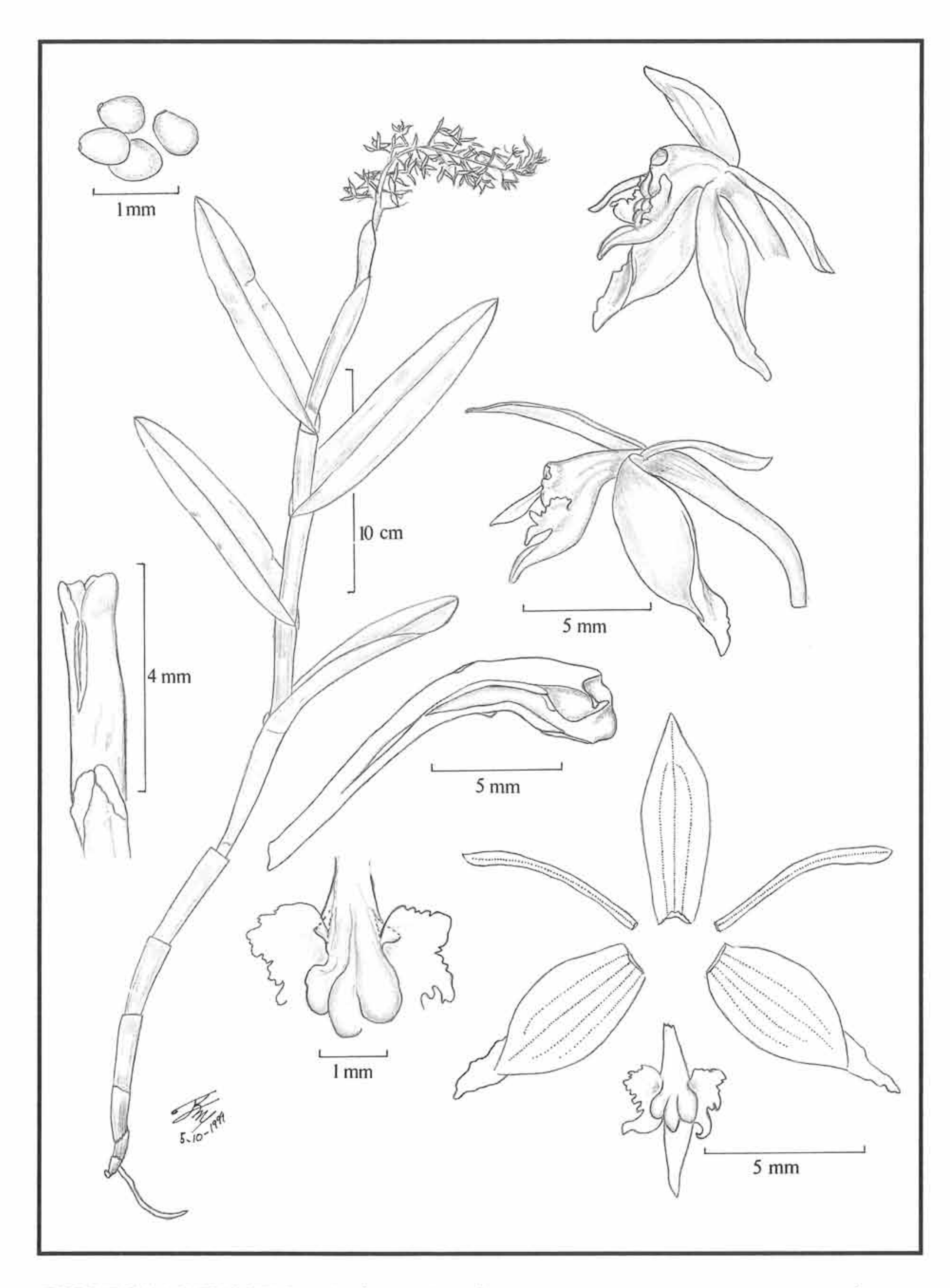
RECOGNITION: *Epidendrum angustilobopaniculatum* belongs to the paniculatum group and is recognized by the very slender, delicate flowers, the basal lobes of the lip forming an anchor-shaped structure, and the apical lobes divaricate and narrowly rectangular and truncate; there is no record of the color. It grows near *Epidendrum peraltum* Schltr. (found at higher altitude) which is very similar vegetatively but has much larger flowers, with wider and larger, retrorse, lateral lobes of the lip, the column 12 mm long and the sepals 14-19 mm long.

CONSERVATION STATUS: DD. Data Deficient.



ETYMOLOGY: From the Latin *anguste* narrow, *lobo* lobe, and *panicula* panicle, in reference to the characteristic narrow lobes of the lip of this species of the *paniculatum* group.

Authors: E. Hágsater & C. H. Dodson **Illustrator: M. López R.** **Editors: E. Hágsater & L. Sánchez S.**
Herbario AMO Apartado Postal 53-123, 11320 México, D.F., MÉXICO



EPIDENDRUM ANTHOCEROIDES Hágsater & Dodson

Plate 411

EPIDENDRUM ANTHOCEROIDES Hágsater et Dodson, *sp. nov.*

Type: ECUADOR: Napo: km 8, Papallacta-Baeza, cerca del río, flores amarillo verdes con café en el labio, 2850 m, 14 abr. 1984, ***C. H. Dodson, A. Hirtz, W. & M. Thurston 14260.*** Holotype: RPSC! (illustration voucher). Paratypes: km 27 Pifo-Baeza-El Chaco, *W. & B. Thurston, C. H. Dodson & A. Hirtz 4021,* AMO! QCNE! (specimens prepared from the same plant as the type).

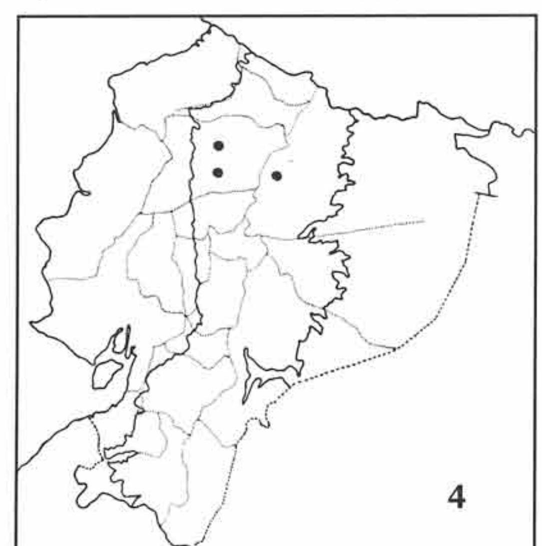
Epidendro anthoceros Linden & Rchb. f. affine sed floribus minoribus, foliis obtusis, pedunculo longitudine folii apicalis, labelli lobulis lateralibus bilobatis, lobulo frontali prominenti triangulari acuto curvo, cornu flexum simulanti divergens.

Hierba epífita o litófita, cespitosa, de 25-56 cm de alto. **Raíces** basales, delgadas, de 1-2 mm de grosor. **Tallos** tipo caña, flexuosos, ancipitosos, 20-46 x 0.5-1.5 cm. **Hojas** 4-6[8], distribuidas en la 1/2 apical del tallo; vainas ancipitosas, estriadas cuando secas, las inferiores no foliosas, 1.5-5 cm de largo; lámina ovado lanceolada a oblongo lanceolada, obtusa, diminutamente apiculada y retusa en el ápice, con una quilla dorsal prominente, desiguales, progresivamente más largas, 2.5-13.5 x 1.2-2.7 cm. **Espatas** 1-2, agudas, cubriendo la base del pedúnculo u ocultándolo, ancipitosas, tubulares, 2-8 x 0.4-1.0 cm. **Inflorescencia** apical, del crecimiento maduro, racemosa, arqueada, raquis de 3-10 cm de largo; pedúnculo de 6-11 cm de largo. **Brácteas florales** linear lanceoladas, acuminadas, progresivamente más cortas, más largas que el ovario en la base de la inflorescencia, hasta el doble de largo, más cortas que el ovario hacia el ápice de la inflorescencia, 4-15 x 1 mm. **Ovario** terete, ligeramente dilatado en los 2/3 apicales, 7-8.7 mm de largo. **Flores** 5-40, simultaneas, abriendo primero las de la base; el labelo siempre dirigido hacia el raquis y al ápice de la inflorescencia, sépalos y pétalos verde plomo a amarillo verde con café en el labelo. **Sépalos** entreabiertos, elípticos, el **dorsal** agudo, cortamente mucronado, 3-nervado, 5.7-6.6 x 1.9-2.1 mm, los **laterales** agudos, con una quilla prominente en el dorso que se prolonga más allá del ápice, el borde de la quilla eroso, 4-nervados, 6.6-7 x 2-4 mm. **Pétalos** ligeramente arqueados, linear oblanceolados, agudos, 1-nervados, 5.3-5.9 x 0.5-0.6 mm. **Labelo** unido a la columna, trilobado, cordado en la base, 3.8-4.2 x 2.5-3.1 mm; bicalloso con una quilla en medio, dando la impresión de tricalloso, las tres estructuras subglobosas, semejantes; lóbulos laterales formados por dos partes, la posterior semiovada, con el margen profundamente eroso-subdentado, la frontal angostamente triangular, curveada, aguda, el margen entero, 1.9-2.3 x 0.7-1.1 mm, lóbulo medio acicular, agudo, 2.2-2.3 x 0.7 mm. **Columna** ligeramente arqueada, de 3.5-4 mm de largo. **Clinandrio** reducido, entero. **Antera** no vista. **Polinios** 4, obovoides, lateralmente comprimidos, subiguales. **Rostelo** apical, hendido. **Lóbulos laterales** del estigma pequeños, de menos de 1/4 de la cavidad estigmática. **Nectario** penetrando 1/4 del perianto, no ornamentado. **Cápsula** elipsoide a subglobosa, 8-16 x 5-8 mm, con pedicelo de 3-5 mm de largo, cuello apical reducido.

Epiphytic or lithophytic, caespitose **herb. Stems** cane-like, ancipitose, flexuous. **Leaves** ovate-lanceolate to oblong-lanceolate, obtuse, minutely apiculate and retuse at the apex, unequal, progressively longer. **Spathes** 1-2, tubular, ancipitose, acute. **Inflorescence** apical, racemose, arching; flowers simultaneous, those of the base opening first. **Floral bracts** linear-lanceolate, acuminate, twice as long as the ovary to shorter than it. **Ovary** terete, somewhat dilated towards the apex. **Flowers** simultaneous, the basal ones opening first, the lip always towards the rachis and the apex of the inflorescence, this fox-tail-like; lead green or yellowish-green, with brown on the lip. **Sepals** partly spreading, elliptic, **dorsal** acute, 3-veined, **laterals** larger, acute with a prominent dorsal erose keel, 4-veined. **Petals** slightly arched, linear-oblanceolate, acute, 1-veined. **Lip** united to the column, 3-lobed, cordate, with 3 subglobose calli; lateral lobes formed by two parts, the posterior lobe semiovate, the margin deeply erose-subdentate, the front lobe narrowly triangular, curved, acute; apical lobe narrowly triangular, acute. **Column** slightly arching. **Nectary** penetrating one fourth the ovary. **Capsule** ellipsoid to subglobose, with a short, thin pedicel.

OTHER SPECIMENS: ECUADOR: Napo: Papallacta, *Holm-Nielsen et al. 6858,* AAU! **Pichincha:** western slope, Pichincha, *Asplund 10089,* S! Pululahua, *Cerón 1931,* AMO(spirit)! QCNE! RPSC! Ruminiahui, *Cerón 3528,* AMO (spirit)! MO! QCNE (x2)!

DISTRIBUTION AND ECOLOGY: Known only from the Andes around Quito and over towards the Amazon basin beyond Papallacta, 2850-3100 m altitude, epiphytic in moist montane forests or lithophytic on rocky slopes along road. Flowering from February to June, fruiting from August to February.



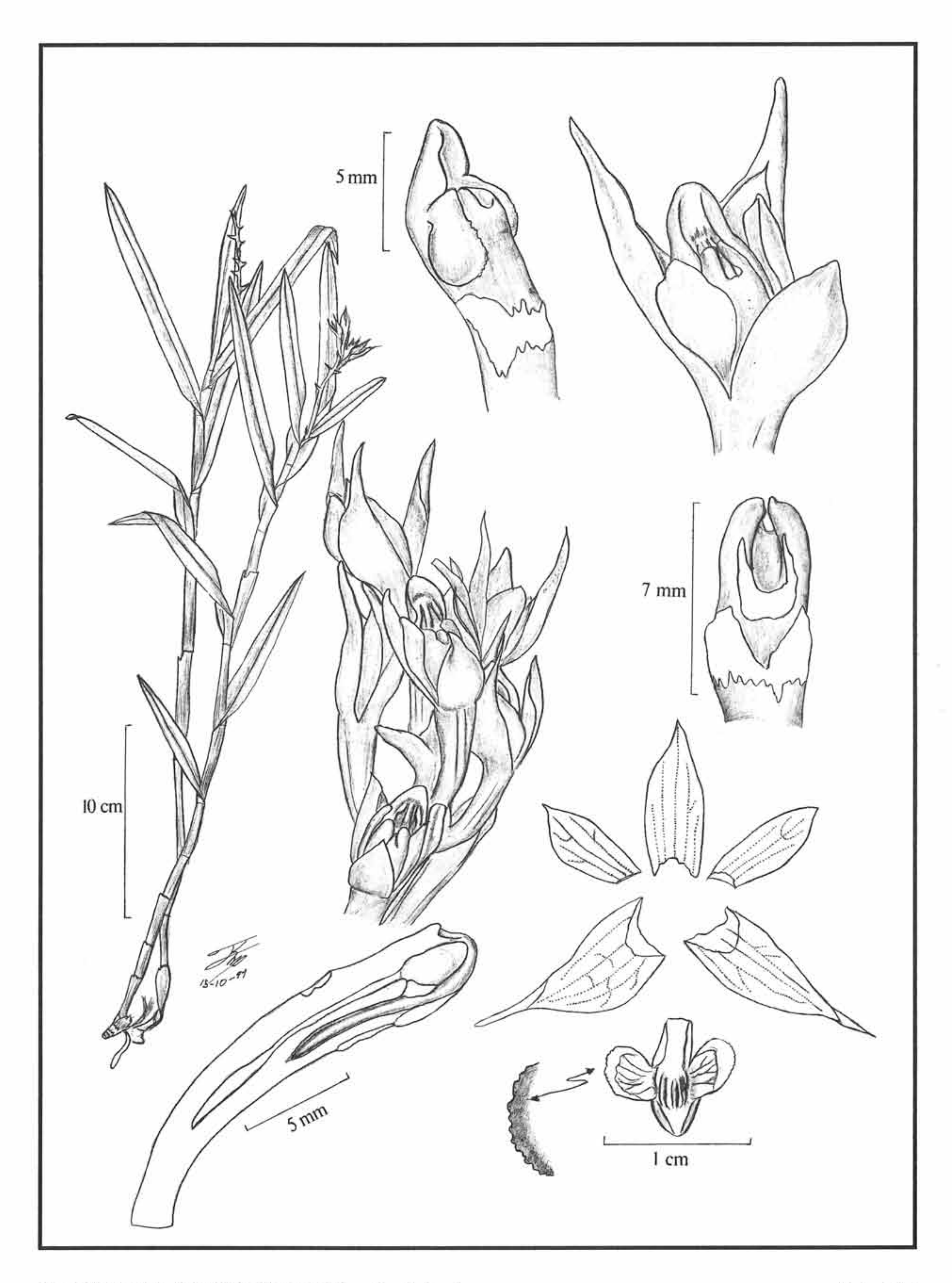
RECOGNITION: *Epidendrum anthoceroides* belongs to the alpicolum group identified by the caespitose habit, few-leaved stems, long, parallel-sided spathes, racemose inflorescence, fleshy flowers oriented in the same sense as the rachis, thus producing a fox-tail appearance. It is recognized by the sepals 6-9 mm long, the lateral lobes of the lip divided into two, the posterior lobe erose and the front lobe forming a large crooked horn. *Epidendrum anthoceros* has larger flowers, the sepals 10-11 mm long, the lateral lobes rounded and denticulate, but without any prominent horn, and the peduncle of the inflorescence elongate, longer than the apical leaf which is acuminate. *Epidendrum oblongialpicolum* Hágsater & Dodson has oblong, rounded to bilobed leaves, very wide compressed stems (up to 16 mm), lateral lobes of the lip reniform, proportionately small and erose, without any prominent horn-like lobe.

CONSERVATION STATUS: DD. Data deficient. It has been found in protected forests and nature reserves.

ETYMOLOGY: From the Greek ἄνθος flower κερας horn, and ,ιδης, the suffix *-oides*, in reference to the similarity between this species and its Venezuelan sister species.

REFERENCES: Løjtnant, B., 1977. **Bot. Notiser** 130: 321.

Authors: E. Hágsater & C. H. Dodson **Illustrator: R. Jiménez M.** **Editors: E. Hágsater & L. Sánchez S.**
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EPIDENDRUM ARISTISEPALUM Hágsater & Dodson

Plate 412

EPIDENDRUM ARISTISEPALUM Hágsater et Dodson, *sp. nov.*

Type: ECUADOR: Loja: new road from Jimbura to Zumba, south of pass, 3000 m, 21 Feb. 1986, ***A. Embree 51.*** Holotype: RPSC! (illustration voucher, in part, plant and sections of flower).

Epidendro birostrato C. Schweinf. simile sed foliis angustioribus, petalis acutis, labelli lobulo medio semiorbiculari et rotundato ecalloso, disco obtuse tricarinato differt.

Hierba epífita, cespitosa, 37-50 cm de alto. **Raíces** basales, gruesas, de 1.7-2 mm de grosor. **Tallos** tipo caña, sencillos, rectos, teretes en la base, progresivamente comprimidos hacia el ápice, 32-37 x 0.4-0.6 cm. **Hojas** 7-8, distribuidas en los 2/3 apicales del tallo; vainas comprimidas, estriadas cuando secas, las dos inferiores no foliosas, de 2-5.5 cm de largo; lámina angostamente oblonga a lanceolada, aguda, diminutamente apiculada, con una quilla dorsal prominente, desiguales, las centrales más largas, borde revoluto, diminutamente crenado, subcoriácea, 6-14.5 x 0.7-1.1 cm. **Espata** ausente. **Inflorescencia** apical, del crecimiento maduro, racemosa, raquis 3.5-6 x 0.15-0.2 cm, pedúnculo de 3-4 cm de largo, sin brácteas o provisto de una sola bráctea triangular, acuminada, de 6 x 2 mm. **Brácteas florales** triangulares, acuminadas, más cortas que el ovario, 4-5.5 x 2-4 mm. **Ovario** terete, algo más grueso abajo del perianto, 12-13 x 2 mm. **Flores** 9-10, resupinadas, simultaneas, carnosas, verde crema a pardo anaranjadas, disco del labelo crema, columna crema; fragancia no registrada. **Sépalos** entreabiertos, cóncavos, desiguales; el **dorsal** oblongo, agudo, 5-nervado, 8-10 x 4 mm; los **laterales** ovado acuminados, aristados, con una quilla dorsal prominente, 4-nervados, las intermedias ramificadas, 11-16 x 4.5-5.1 mm. **Pétalos** entreabiertos, elípticos, agudos, oblicuos, 3-nervados, con varias ramificaciones pequeñas, 7.7-8.5 x 3.1-3.4 mm. **Labelo** unido a la columna, trilobado, profundamente cordado, lóbulos laterales suborbiculares, con el margen eroso, 3.4 x 3.5 mm, lóbulo medio suborbicular, redondeado, con los márgenes formando media caña, 2.5 x 2.8 mm, ecalloso, con tres quillas longitudinales. **Columna** corta, gruesa, de 6.8 mm de largo. **Clinandrio** reducido, entero. **Rostelo** apical, hendido. **Lóbulos laterales** del estigma de 1/3 de la cavidad estigmática. **Nectario** penetrando 1/5 del perianto, no ornamentado. **Antera** no vista. **Polinios** no vistos. **Cápsula** elipsoide, 27 x 13-15 mm, incluyendo un pedicelo de 3-4 mm de largo, cuello apical reducido.

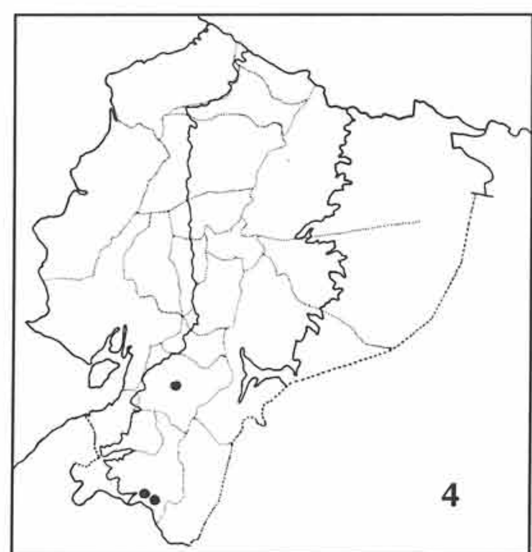
Epiphytic, caespitose **herb. Roots** basal, thick. **Stems** cane-like, simple, terete below, laterally compressed above. **Leaves** narrowly oblong to lanceolate, acute, minutely apiculate, unequal, the central ones longer, margins revolute, subcoriaceous. **Spathe** absent. **Inflorescence** apical, racemose. **Floral bracts** triangular, acuminate, much shorter than the ovary. **Ovary** terete. **Flowers** resupinate, simultaneous, fleshy, cream-green to brownish-orange, the column and disc of the lip cream. **Sepals** partly spreading, concave, unequal, the **dorsal** oblong, acute, 5-veined; the **laterals** ovate, acuminate, aristate, 4-veined. **Petals** partly spreading, elliptic, acute. 3-veined, branching. **Lip** united to the column, 3-lobed, deeply cordate, lateral lobes suborbicular, margin finely erose; midlobe semiorbicular, rounded, in natural position the sides upturned, ecallose, the disc with 3 keels. **Column** short and thick. **Clinandrium** reduced, entire. **Nectary** penetrating one fifth of the ovary.

OTHER SPECIMENS: ECUADOR: Azuay: Páramo del Castillo, *Camp E-4804*, AMES! NY!

OTHER RECORDS: ECUADOR: Loja: new road from Jimbura to Zumba, south of pass, 3000 m, 21 Feb. 1986, *Hirtz 2860,* two color slides, AMO! (illustration vouchers, in part). [Close up of inflorescence and a flower taken from same plant as the type.]

DISTRIBUTION AND ECOLOGY: Known only from southern Ecuador, in cloud forest, 3000 m altitude. Sympatric with *E. aristoloides* Hágsater & Dodson. Flowering in February.

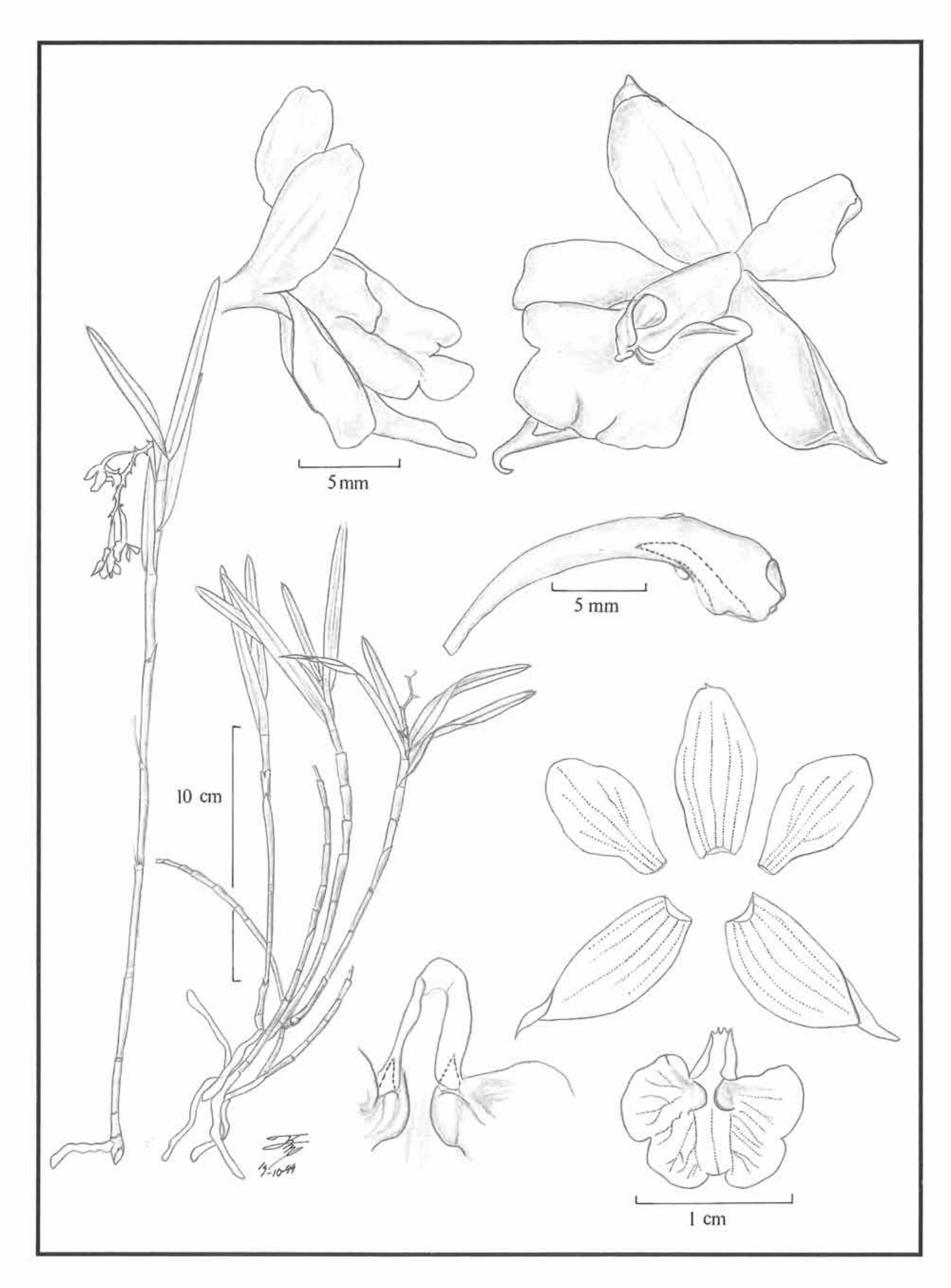
RECOGNITION: *Epidendrum aristisepalum* belongs to the coronatum group, aristisepalum subgroup, which has a caespitose habit, simple stems, narrow, subcoriaceous leaves,a racemose inflorescence without spathes, and the sepals prominently aristate. *Epidendrum aristisepalum* has a 3-lobed, ecallose, 3-keeled lip, with the apical lobe semiorbicular and rounded, the leaves narrower. *Epidendrum birostratum* has leaves up to 15 mm wide, obtuse petals, lip with a prominent 2-lobed callus and the midlobe tridentate at the apex. *Epidendrum aristoloides* has narrower leaves and shorter sepals, petals rounded and the lip 4-lobed and bicallose.



CONSERVATION STATUS: DD. Data deficient.

ETYMOLOGY: From the Latin *aristatus* awned, and *sepalum*, sepal; in reference to the awned sepals which are characteristic of this species and its close allies.

Authors: E. Hágsater & C. H. Dodson **Illustrator: R. Jiménez M.** **Editors: E. Hágsater & L. Sánchez S.**
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EPIDENDRUM ARISTOLOIDES Hágsater & Dodson

Plate 413

EPIDENDRUM ARISTOLOIDES Hágsater et Dodson, *sp. nov.*

Type: ECUADOR: Loja, new road Jimbura to Zumba, about 5 km N of Pass, 21 Feb. 1986, ***Embree 39.*** Holotype: RPSC! (illustration voucher), QCNE!

Epindendro birostrato C. Schweinf. affine sed foliis angustioribus, sepalis brevioribus, petalis rotundatis, labello tetralobato et bicalloso recedit.

Hierba terrestre (y probablemente epífita), subcespitosa, de 23-37 cm de alto. **Raíces** basales, gruesas, de 1.7-3 mm de grosor. **Tallos** tipo caña, rectos, teretes, producidos a 1.5-2.0 cm de la base del tallo anterior, 12-26 x 0.2-0.4 cm. **Hojas** 4-5, distribuidas a lo largo de la mitad del tallo; vainas tubulares, estriadas en seco, las 2 o 3 basales no foliosas, 2-4 cm de largo; lámina foliar angostamente oblongo-lanceolada, obtusa, diminutamente apiculada, con una quilla dorsal, subcoriácea, desiguales, progresivamente más largas, 4.5-9 x 0.5-0.8 cm. **Espata** ausente. **Inflorescencia** apical, del crecimiento maduro, racemosa, arqueado nutante, raquis zigzag, comprimido, de 2.5-3 x 0.12-0.17 cm, pedúnculo 7-17 mm de largo. **Brácteas florales** triangulares, acuminadas, más cortas que el ovario, 2.0-2.3 x 1.4 mm. **Ovario** terete, algo dilatado en los 2/3 apicales, 13 x 2 mm. **Flores** 3-11, resupinadas, simultáneas, sépalos y pétalos rosado pálido, labelo crema. **Sépalos** extendidos, elípticos, 5-nervados, el **dorsal** obtuso, diminutamente aristado, 11 x 5 mm, los **laterales** oblicuos, con una quilla dorsal prominente que se prolonga más allá de ápice, aristados, 13.5 x 4.8-5.4 mm. **Pétalos** extendidos, oblicuos, obovado rómbicos, redondeados a obtusos, 3-nervados, con las venas laterales ramificadas, 9.7 x 4.8 mm. **Labelo** 4-lobado, 8.6 x 1.2 mm; bicalloso, callos subglobosos, lateralmente comprimidos, en cuya base se forma un cunículo cónico; lóbulos basales semiorbiculares, el margen finamente eroso, lóbulos apicales semiorbiculares, entre los cuales se forma un seno ancho, mucronado. **Columna** corta, gruesa, de 6.5 mm de largo. **Clinandrio** reducido, entero. **Rostelo** hendido. **Lóbulos laterales del estigma** no vistos. **Antera** ovoide. **Polinios** no vistos. **Nectario** no visto. **Cápsula** (inmadura) elipsoidal con una pedicelo delgado de unos 4 mm de largo.

Subcaespitose, terrestrial **herb. Roots** basal, thick. **Stems** cane-like, terete, simple. **Leaves** distributed along the upper half of the stem, narrowly oblong-lanceolate, obtuse, minutely apiculate, margin entire, subcoriaceous, unequal. **Inflorescence** apical, racemose, arching, nutant, rachis zigzag. **Floral bracts** triangular, acuminate, much shorter that the ovary. **Ovary** terete, somewhat thickened in the apical 2/3. **Flowers** 3-11, resupinate, simultaneous, sepals and petals pale pink, lip cream. **Sepals** spreading, elliptic, aristate, 5-veined. **Petals** spreading, obovate-rhombic, rounded to obtuse, 3-veined, the lateral veins branching. **Lip** 4-lobed, bicallose, calli subglobose, laterally compressed; lobes semiorbicular, margin finely erose, the apex widely emarginate, mucronate. **Column** short, thick. **Clinandrium** reduced, entire.

OTHER SPECIMENS: ECUADOR: Loja: new road Jimbura to Zumba, about 5 km N of Pass, *Embree 40,* RPSC! **PERU: Cajamarca:** Chota, bosque El Pargo, arriba de Huarimarca, Llama-Huambos, 3000 m, *Sagástegui et al. 15977,* AMO!

DISTRIBUTION AND ECOLOGY: Southern Ecuador and northern Peru, at around 3000 m altitude, terrestrial (and probably epiphytic) in humid forest. Sympatric with *E. aristisepalum* Hágsater & Dodson in Ecuador. Flowering in February and March.

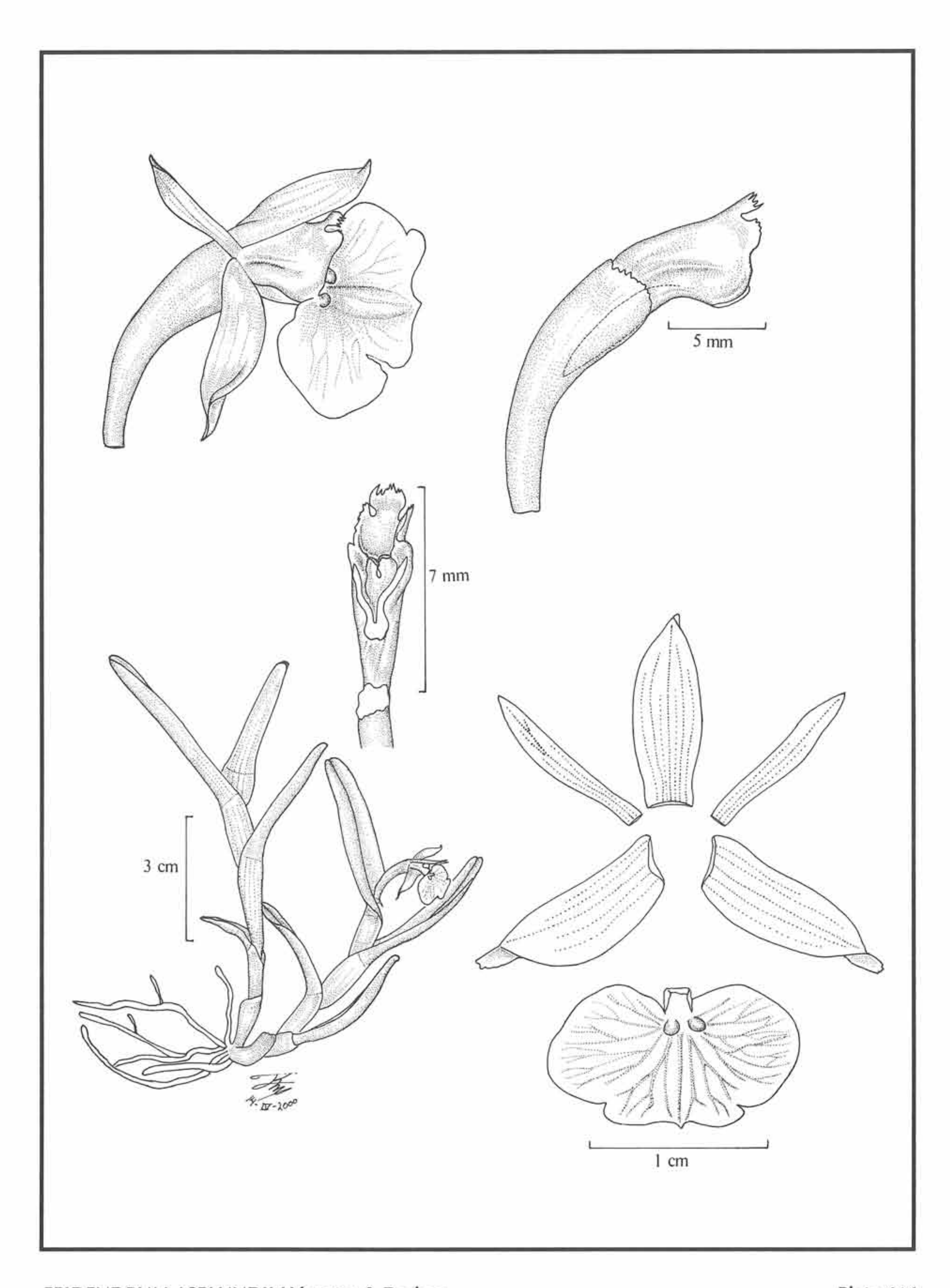
RECOGNITION: *Epidendrum aristoloides* belongs to the coronatum group, aristisepalum subgroup, which has a caespitose habit, simple stems, narrow, subcoriaceous leaves,a racemose inflorescence without spathes, and the sepals prominently aristate. *Epidendrum aristoloides* has a prominently 4-lobed lip, the lobes all semiorbicular, narrow leaves (5-8 mm wide), and 11-13.5 mm long sepals. It is closely allied to *Epidendrum birostratum* which has leaves up to 15 mm wide, the lip 3-lobed, the midlobe tridentate at the apex with a prominent 2-lobed callus and one keel, and sepals 14-17 mm long. *Epidendrum aristisepalum* has a 3-lobed, ecallose lip with 3 keels and the apical lobe rounded, the leaves 7-11 mm wide.



CONSERVATION STATUS: DD. Data deficient.

ETYMOLOGY: From the Latin *aristatum,* awned, and the Greek suffix -οειδης, which signifies resemblance, in reference to *Epidendrum aristisepalum*, which this species resembles.

Authors: E. Hágsater & C. H. Dodson **Illustrator: R. Jiménez M.** **Editors: E. Hágsater & L. Sánchez S.**
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EPIDENDRUM ASPLUNDII Hágsater & Dodson Plate 414

EPIDENDRUM ASPLUNDII Hágsater et Dodson, *sp. nov.*

Type: ECUADOR: Pastaza, Mera, c. 1100 m, 31 Jan. 1956, ***E. Asplund 19147.*** Holotype: AMES! (illustration voucher). Isotype: NY!

Epidendro chanchamayodifformi Hágsater & L. Sánchez similare sed habitu fortiore, foliis latioribus, labelli lobulis lateralibus ovalis, lobulo medio ad apicem mucronato, clinandrio tripartito recedens.

Hierba epífita, cespitosa, 7-12 cm de alto. **Raíces** basales, carnosas, 0.5-1 mm de grosor. **Tallos** sencillos, tipo caña, ancipitosos, flexuosos, 3-8.5 x 0.4-0.6 cm. **Hojas** 3-4, equidistantes a lo largo del tallo, ascendentes; vaina ancipitosa, lisa, 1.0-2.0 cm de largo; lámina lanceolada, ápice bilobado, margen entero, coriácea, dorsalmente carinada, color verde, 2.5-5.0 x 1.0-1.2 cm. **Inflorescencia** apical, sésil. **Bráctea floral** más corta que el ovario, anchamente elíptica, redondeada, 6 x 5 mm. **Flor** solitaria, resupinada, verde brillante, fragancia no registrada. **Ovario** inflado ventralmente detrás del perianto, terete, no ornamentado, 15-20 x 2.1-3.5 mm. **Sépalos** extendidos, libres, margen entero, no ornamentados, subcoriáceos, elípticos, aristados, prominentemente carinados, 5 nervados, 9.0-10.5 x 1.5-2.3 mm; los laterales ligeramente oblicuos. **Pétalos** membranáceos, angostamente elípticos, agudos, entreabiertos, margen entero, extendido, 3 nervados, 9.5-10.5 x 0.8-1.0 mm. **Labelo** unido a la columna, base cordada, reniforme, trilobado, 11-12 x 6.5-7.0 mm; bicalloso, los callos pequeños, subglobosos; lóbulos laterales del labelo ovados, enteros; lóbulo medio transversalmente rectangular, con un pequeño mucrón. **Columna** recta, gruesa, 6.0-6.5 x 2.5-2.8 mm. **Clinandrio** prominente, tripartido, margen profundamente dentado. **Antera** no vista. **Polinios** no vistos. **Rostelo** apical, hendido. **Lóbulos laterales del estigma** no vistos. **Nectario** penetrando 1/2 del ovario, no ornamentado. **Cápsula** no vista.

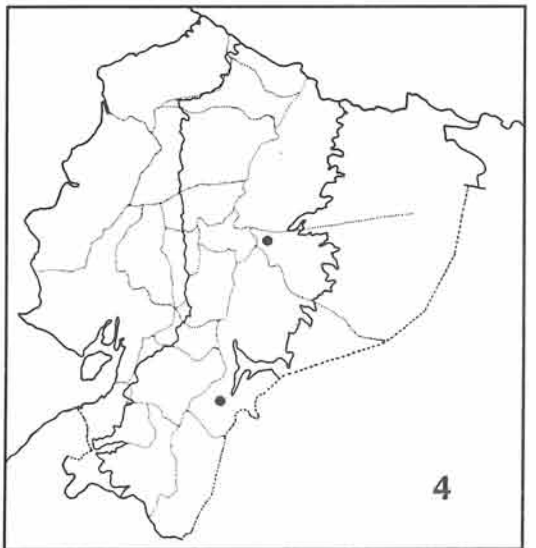
Epiphytic, caespitose **herb**. **Stems** ancipitose, flexuous. **Leaves** 3-4, ascending, lanceolate, apex unequally bilobed, margin entire, dorsally carinate, green. **Inflorescence** apical, sessile. **Floral bract** smaller than the ovary, elliptic, rounded. **Flower** solitary, resupinate, bright green. **Ovary** inflated, terete, unornamented. **Sepals** spreading, free, elliptic, aristate, margin entire, prominently carinate, 5-veined; the laterals oblique. **Petals** membranaceous, narrowly elliptic, acute, margin entire, 3-veined. **Lip** united to the column, cordate at the base, reniform, 3-lobed; bicallose, the calli small, subglobose; lateral lobes ovate, entire; midlobe transversely rectangular with a short mucro. **Column** straight, thick. **Clinandrium** prominent, tripartite, deeply dentate. **Rostellum** apical, slit. **Nectary** penetrating half of the ovary, unornamented.

OTHER SPECIMENS: ECUADOR: Morona-Santiago: Mision Bomboiza, *L- Holm-Nielsen, S. Jeppesen, B. Løjtnant & B. Øllgaard 4248* AAU!

DISTRIBUTION AND ECOLOGY: Known only from eastern central Ecuador, epiphyte, in rain forest, ca. 800-1100 m altitude. Flowering from January to April.

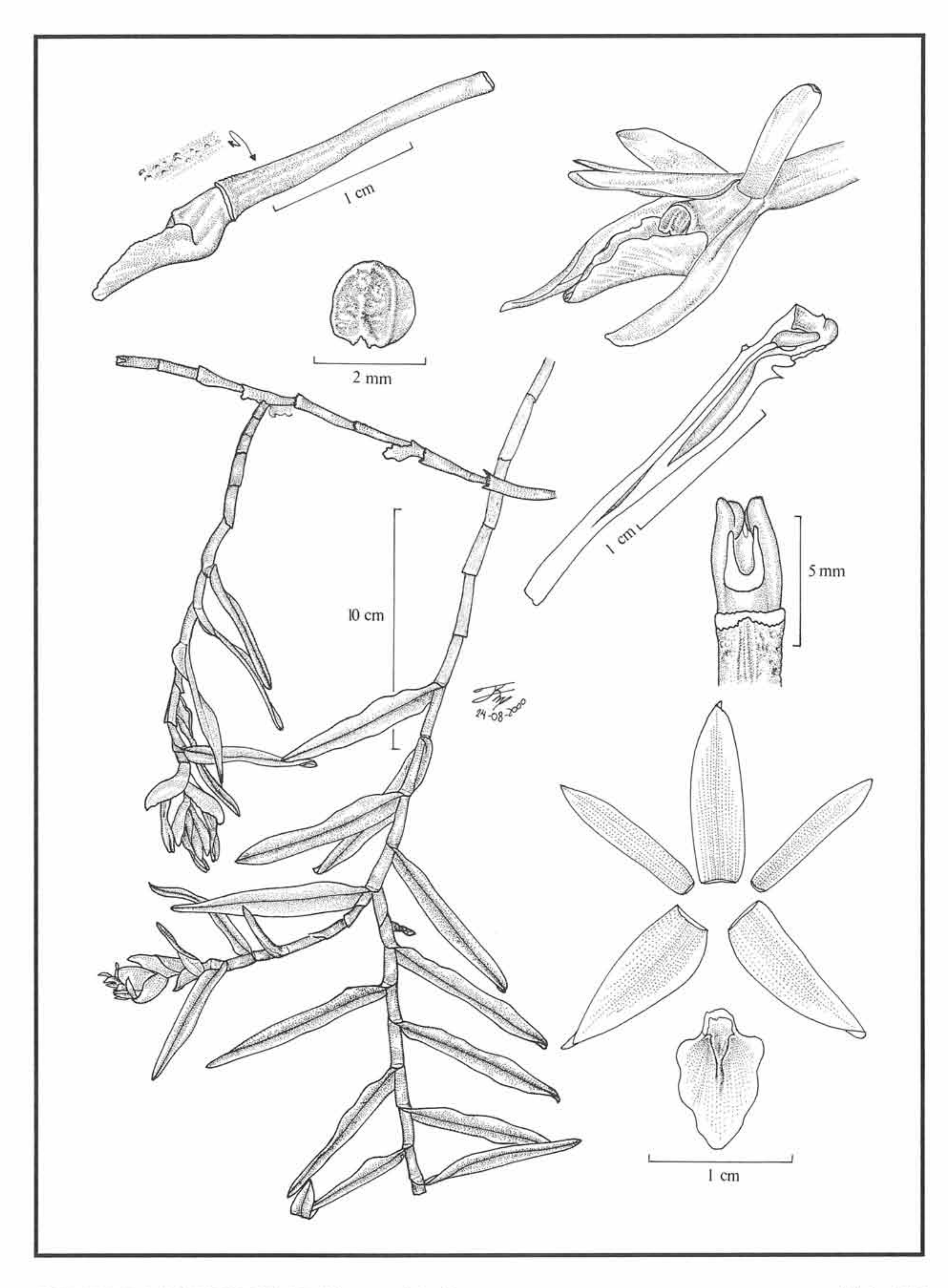
RECOGNITION: *Epidendrum asplundii* belongs to the difforme group and can be recognized by the small but vigorous plants, ancipitose stems, ascending leaves, solitary flower, inflated ovary, 3-lobed lip with ovate lateral lobes and short, transversely rectangular midlobe with a minute mucro, and the prominent, tripartite, deeply dentate clinandrium. It is similar to *E. chanchamayodifforme* Hágsater & L. Sánchez from Peru, which has a more slender habit, narrower leaves, semicircular lateral lobes of the lip, disc of the lip with 3 prominent keels, midlobe of the lip without mucro, and an entire clinandrium. *Epidendrum linearidifforme* Hágsater & L. Sánchez, from French Guiana and Surinam, has terete stems, narrower leaves, longer flowers, a non-inflated ovary, lateral lobes of the lip subquadrate, short, and an entire clinandrium. *Epidendrum scharfii* Hágsater & Dodson from Colombia and Ecuador has longer plants, terete stems, 3-4 flowers, reniform lip, and an entire clinandrium.

CONSERVATION STATUS: DD: Data deficient.



ETYMOLOGY: In honor of Erlk Asplund who collected the type specimen.

Authors: E. Hágsater & C. H. Dodson **Illustrator: R. Jiménez M.** **Editors: E. Hágsater & L. Sánchez S.**
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EPIDENDRUM BAHORUCENSE Hágsater & L. Cerv.

Plate 415

EPIDENDRUM BAHORUCENSE Hágsater *et* L. Cerv., *sp. nov.*

Type: DOMINICAN REPUBLIC: Montiada Nueva, Octubre 1969, ***D. Dod 198.*** Holotype: Herb. Dod! (illustration voucher). Isotypes Herb. Dod! x2.

Epidendro paranaënsi Barb. Rodr. simile sed labello triangulari, ovario longiore, petalis minoribus angustioribusque, capsula minore.

Hierba epífita, colgante, ramificada, ca. 200 cm de alto. **Tallos** teretes, con el tallo principal 75-200 x 0.5-0.6; los secundarios de 21.5-37 x 0.3-0.4 cm, los terciarios 5-18 x 0.4-0.6 cm. **Hojas** articuladas, semejantes en tamaño, las de los tallos secundarios y terciarios 7-12; vaina tubular finamente estriada en seco, escarioso fibrosa con el tiempo, 1.5-3.2 x 0.3-0.6 cm; lámina oblonga a oblongo lanceolada, irregularmente bilobada, coriácea, margen entero, 3-11.5 x 0.7-1.7 cm. **Brácteas florales** del mismo largo que el ovario, fuertemente imbricadas, conduplicadas, ovadas, agudas, 17-20 mm de largo. **Espata** ausente. **Inflorescencia** apical, sésil, racemosa, dística, elipsoidal, 2.3-5 cm. **Flores** 4-6, simultáneas, entreabiertas, blancas, coriáceas, fragancia no registrada. **Ovario** terete, 17-20 mm de largo, ornamentado cerca del ápice. **Sépalos** algo cóncavos, mucronados, con una quilla en el dorso, nervaduras numerosas. **Sépalo dorsal** oblongo lanceolado, agudo, margen entero, 9-12 x 2-2.5 mm. **Sépalos laterales** oblícuamente lanceolados, agudos, margen entero, 9-12.5 x 3-4 mm. **Pétalos** oblongos, agudos, quillados dorsalmente, nervaduras numerosas, 9-11 x 1 mm. **Labelo** unido a la columna, entero, ampliamente ovado triangular, agudo, ápice truncado, margen ondulado, coriáceo, algo conduplicado en posicion natural y parcialmente abrazando el ápice de la columna, 8 x 5-6 mm; callo en "Y", de 2 quillas que se unen y prolongan en una que se difumina en la parte media del disco. **Columna** corta y gruesa, recta, terete, engrosada hacia el ápice, 4 mm de largo. **Clinandrio** corto, entero. **Antera** subcuadrada, con una quilla basal, rugosa. **Polinios** no vistos. **Rostelo** subapical, hendido. **Lóbulos laterales del estigma** de la mitad del largo de la cavidad estigmática. **Nectario** profundo, penetrando casi hasta la mitad del ovario, liso. **Cápsula** elipsoidal, el cuerpo de 12 x 9 mm, casi sésil y con un cuello apical de ca. de 3 mm de largo.

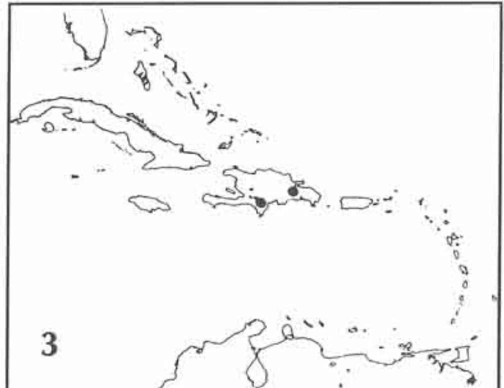
Epiphytic hanging, branching **herb**. **Stems** terete. **Leaves** articulate, similar, 7-12 leaves on the secondary and tertiary stems, oblong to oblong-lanceolate, unequally bilobed, coriaceous. **Floral bracts** imbricating, conduplicate, as long as the ovary. **Inflorescence** apical, sessile, racemose, distichous, ellipsoid. **Flowers** 4-6, white, coriaceous. **Sepals** concave, mucronate, with a dorsal keel; the **dorsal** oblong-lanceolate, acute; the **laterals** obliquely lanceolate, acute. **Petals** oblong, acute. **Lip** united to the column, entire, ovate-triangular, rounded, coriaceous, margin wavy, "Y" -shaped callus prolonged into a keel. **Column** straight, thick. **Clinandrium** reduced, entire. **Nectary** deep, penetrating half of the ovary, unornamented. **Capsule** ellipsoid.

DISTRIBUTION AND ECOLOGY: Known only from the Dominican Republic, epiphyte, from 1155 to 1600 m altitude.

OTHER SPECIMENS: REPUBLICA DOMINICANA: Barahona. Montiada Nueva, *Dod 182, 198* Herb. Dod x2! Montiada Nueva, Caña Brava, *Liogier 14277* AMES!, NY!, P! Montiada Nueva, SE of Polo, *Howard & Howard 8536* AMES! NY! US! Cuatro Alas N of La Culata, Constanza, *Liogier 13109* AMES! 19 km E de San José Ocoa, en El Manaclar, *Mejía y Pimentel 18228* NY!

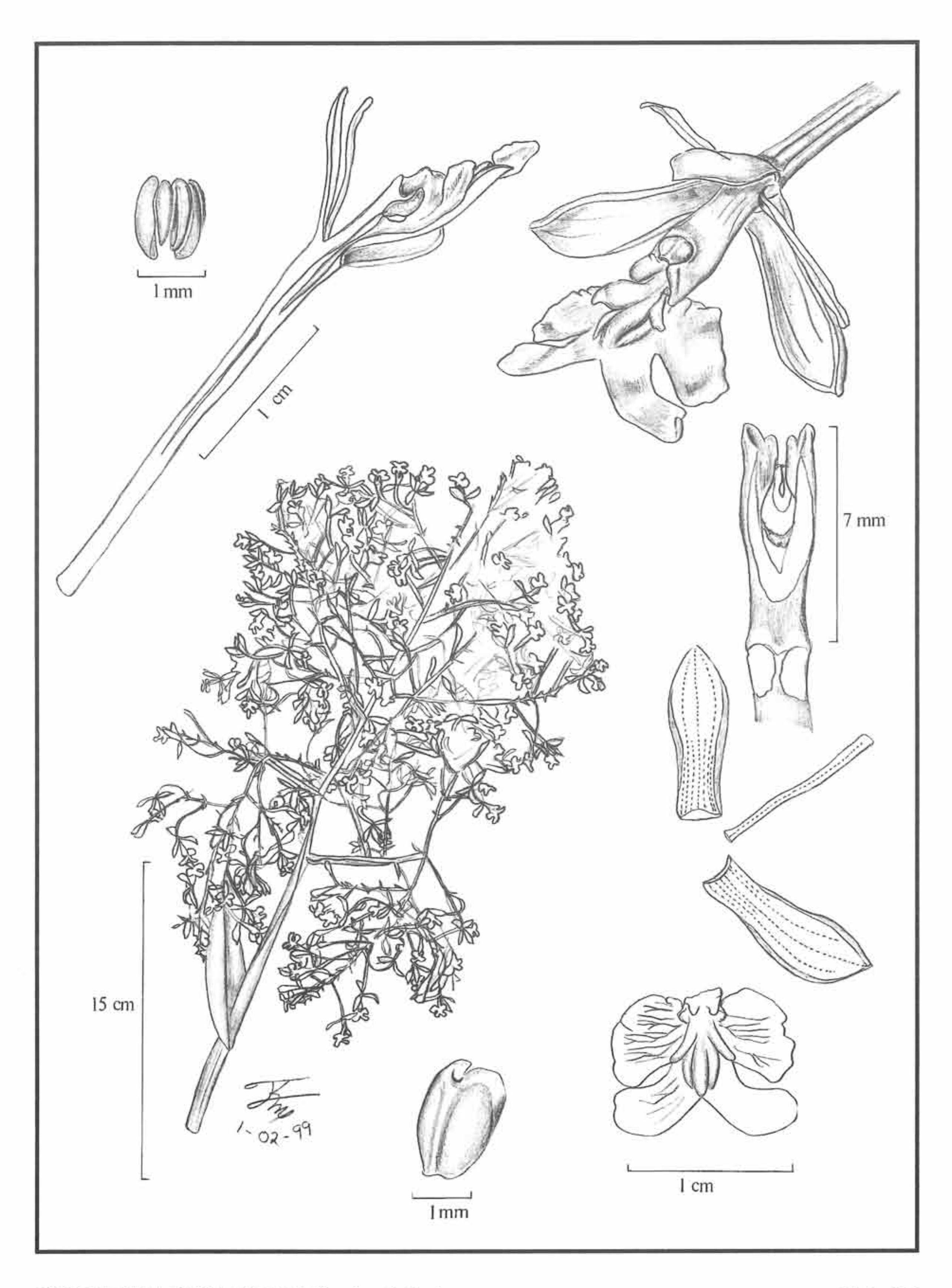
RECOGNITION: *Epidendrum bahorucense* belongs to the paranaënse subgroup of the ramosum group, characterized by the pendent branching plant with coriaceous leaves, distichous inflorescense, oblong to oblong-lanceolate leaves. This species can be recognized by its terete stems, ovate-triangular lip, truncate at the base, short column, reduced clinandrium, ellipsoid capsule, 12 x 9 mm. *Epidendrum morrisii* Hágsater & L. Cerv. from Jamaica has laterally compressed stems, longer leaves, 5-19 cm long, and larger flowers, sepals 10-16 mm long, petals 14-15 mm long , and longer column, 6 mm long. *Epidendrum mora-retanae* Hágsater from Nicaragua to Panama has a cordate lip, clinandrium as long as the column proper, and a pyriform capsule, 20-25 x 10-12 mm. The name *Epidendrum imbricatum* Lindl., which corresponds to a Brazilian plant, cannot be used due to the earlier homonym applied to *Lockhartia biserra* by Lamarck, and thus the later name, *E. paranaënse* Barb. Rodr. must be used for that species, which had wider leaves, 2-3 cm wide, ovate to ovate-oblong lip, ovary 12-15 mm long, longer petals, 12-13 x 2-2.5 mm, and longer capsule, 20 x 12 mm.

ETYMOLOGY: In reference to the locality of "La Sierra de Bahoruco", in the province of Barahona, Dominican Republic, close to which the plants were collected.



REFERENCES: Fawcett W. & A.B. Rendle, 1982, **Flora de Jamaica** 1: 94, as *E. imbricatum*. Hágsater, E., 1993. *E. mora-retanae* Hágsater, in **Icones Orch.** 2: t. 160.

Authors: E. Hágsater & L. Cervantes **Illustrator: R. Jiménez M.** **Editors: E. Hágsater & L. Sánchez S.**
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EPIDENDRUM BARBARICUM Hágsater & Dodson

Plate 416

EPIDENDRUM BARBARICUM Hágsater et Dodson, *sp. nov.*

Type: ECUADOR: Carchi: 5 km east of Santa Bárbara, mountain rain forest, ca. 2700 m. Flowers reddish-violet. ***G. Harling & L. Andersson 12442.*** Holotype: AMES 113415! (illustration voucher) (AMES 113416! is a part of the holotype). Isotypes: GB (x2)!

Epidendro porphyreo Lindl. simile sed floribus minoribus minus carnosis, labelli lobulis apicalibus ad apicem leviter dilatatis, nectario non profundo recedit.

Hierba epífita, cespitosa, de 100-150 cm de alto. **Raíces** carnosas. **Tallos** sencillos, tipo caña, cilíndricos, rectos, hasta 120 x 8 mm de grosor. **Hojas** distribuidas en las dos terceras partes apicales del tallo, vaina tubular, lisa, hasta 5.3 cm de largo; lámina foliar articulada, elíptica, aguda, margen entero, lisa, pardo violáceas, 7.5-17.5 x 1.9-5.0 cm. **Espata** ausente. **Inflorescencia** apical, del crecimiento maduro, florece una sola vez, paniculada, erecta, 30-35 cm de largo, pedúnculo ca. 10-13.5 cm de largo, provisto de 2 brácteas, acuminadas, conduplicadas, 7.5-12 cm de largo. **Flores** simultáneas, ca. 200, resupinadas, de color violeta rojizo, sin datos de fragancia. **Bráctea floral** mucho más corta que el ovario, triangular, acuminada, 1.5-4 mm de largo. **Ovario** terete, no inflado, glabro, 15-28 mm de largo. **Sépalos** mas o menos extendidos, libres, glabros, carnosos, angostamente espatulado oblanceolados, obtusos, márgenes extendidos, 5-nervados, las nervaduras ramificadas; 9 x 3.0-3.5 mm. **Pétalos** mas o menos extendidos, filiformes, ápice dilatado, obtuso, margen extendido, membranáceos, 1-nervados; 8 x 0.2 mm. **Labelo** unido a la columna, trilobado, tan ancho entre los laterales como entre los apicales, 6.5-7.0 x 8-9 mm, bicalloso, los callos lateralmente comprimidos, laminares, divergentes, agudos, largos, llegando a los senos del istmo, carinas tres prominentes, romas, la central llegando hasta el seno apical; lóbulos laterales oblicuamente subrectangulares a dolabriformes, de márgenes irregulares, erosos; lóbulo medio bifurcado, fuertemente divaricado, los lobos 2.5 mm de ancho **Columna** recta, 7 mm de largo incluyendo el clinandrio. **Clinandrio** reducido, margen entero. **Rostelo** cerca del ápice del cuerpo de la columna, hendido; lóbulos laterales del estigma prominentes, de alrededor de un tercio del largo de la cavidad estigmática. **Antera** obovoidea, lóculos 4. **Polinios** 4, tipo ala de pájaro, lateralmente fuertemente comprimidos, los interiores algo menores, transparentes; caudículas suaves y lisas, ligeramente mas cortas que los polinios; viscidio semilíquido, transparente. **Nectario** poco profundo, penetrando apenas detrás del perianto, liso interiormente. **Cápsula** no vista.

Epiphytic, caespitose **herb**. **Stems** simple, cane-like, terete. **Leaves** elliptic, acute, brownish violaceous. **Inflorescence** paniculate. **Flowers** ca. 200, simultaneous, resupinate, reddish-violet. **Floral bract** much shorter than the ovary, acuminate. **Ovary** glabrous. **Sepals** narrowly subspathulate, oblanceolate, obtuse, 5-veined. **Petals** filiform, 1-veined. **Lip** 3-lobed, as wide at the apex as at the base; bicallose, calli long, divergent, laterally compressed, acute, disc 3-carinate. **Column** straight. **Clinandrium** reduced, entire. **Pollinia** 4, bird-wing type, unequal; caudicles short and smooth. **Nectary** barely penetrating the ovary.

OTHER SPECIMENS: ECUADOR: Sucumbios: 5 km E of Sta. Bárbara, *Dodson et al. 12113*, MO! ibid. *G. Harling 4076*, S! Ibid., *B. Lrjtnant 12367*, GB! Río Chingual, *B. Stahl et al. 91*, GB! **Carchi**: Páramo del Angel, *Dodson et al. 16135*, QCNE! RPSC! SEL! Tufiño-Maldonado, *M. Fallen et al. 779*, MO SEL!

DISTRIBUION AND ECOLOGY: Known only from the area east of Santa Bárbara to west of Tufiño, on the border of Colombia and Ecuador, at 2700-2800 m in mountain rain forest. Flowering from December to March, June.

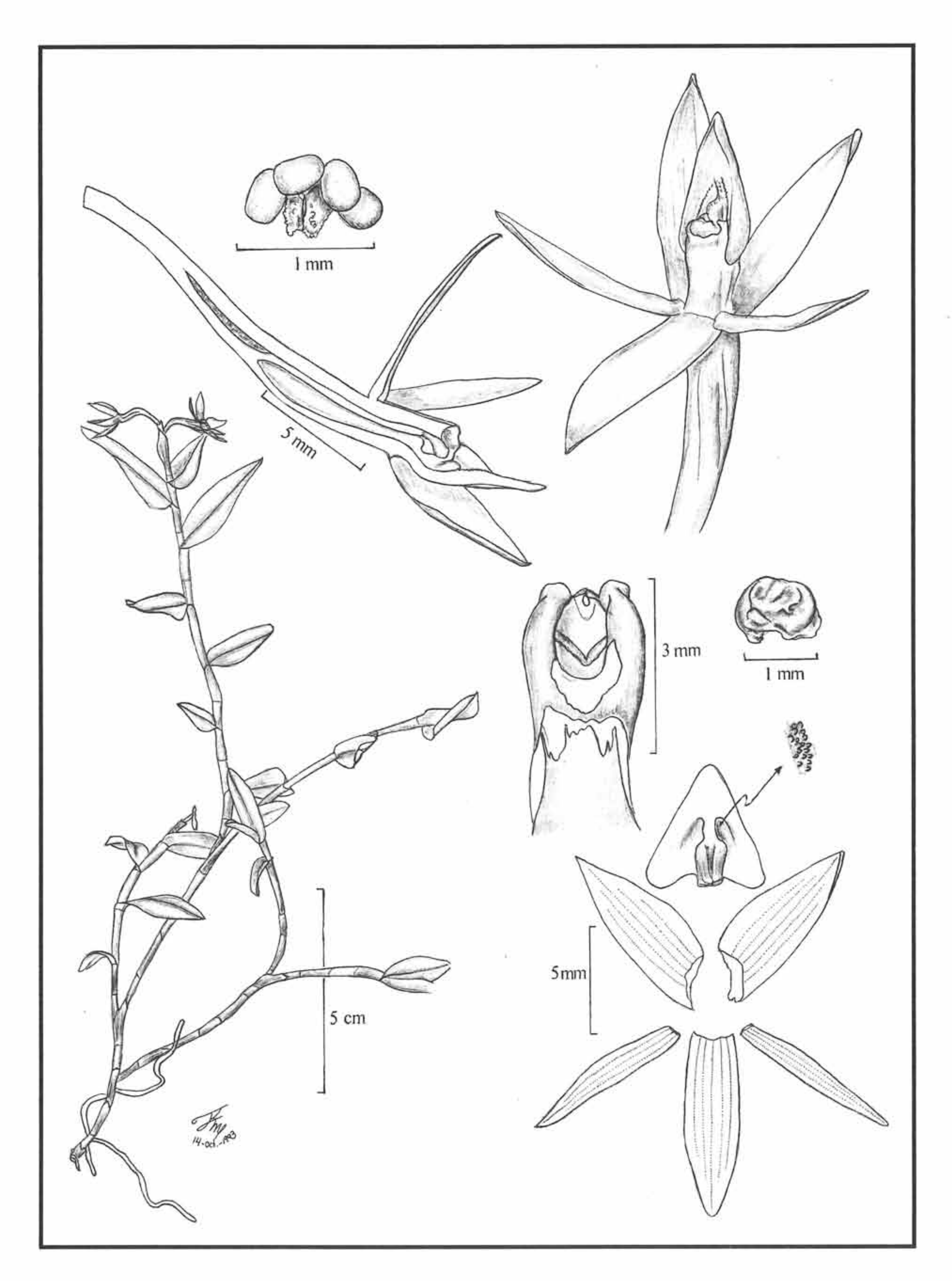
RECOGNITION: *Epidendrum barbaricum* belongs to the paniculatum group and is similar to *E. porphyreum* Lindl. but flowers smaller, not as fleshy, and reddish violet, cerise; the panicle is large, many-flowered and not as dense as in *E. porphyreum* which has larger, fleshier flowers, and a compact inflorescence. *Epidendrum atacazoicum* Schltr. is immediately recognizable by its crowded, compact, pyramid-shaped inflorescence, and the flowers with a relatively oversized lip, the sepals are 8.5-10 mm long the lip 9-13 mm wide, being wider at the apical lobes, and only found on the western slopes of the Andes in Central and Southern Ecuador. The calli are somewhat similar to those of *E. embreei* Dodson, the orange-flowered species. *Epidendrum peraltum* Schltr. which is found on the Pacific slope of the Andes at the same latitude, has dirty pink flowers, with prominent, somewhat retrorse lateral lobes of the lip. *Epidendrum laeve* Lindl. has somewhat larger flowers, the lateral lobes of the lip somewhat retrorse and the calli shorter and more globose.

4

CONSERVATION STATUS: Data deficient. The area where this species is found has been largely deforested for subsistence agriculture but canyons maintain their vegetation.

ETYMOLOGY: In reference to the locality where it was found by numerous collectors: Santa Bárbara de Sucumbíos.

Authors: E. Hágsater & C. H. Dodson **Illustrator: R. Jiménez M.** **Editors: E. Hágsater & L. Sánchez S.**
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EPIDENDRUM BIANTHOGASTRIUM Hágsater & Dodson **Plate 417**

EPIDENDRUM BIANTHOGASTRIUM Hágsater et Dodson, *sp. nov.*

Type: ECUADOR: Pichincha: Entre Nono y Tandayapa, Río Alambí, 2200 m, litófita, col. 5 dic. 1986, prensado 9 feb. 1993, ***E. Hágsater, C.H. Dodson & A. Hirtz 8874.*** Holotype: QCNE! Isotypes: AMO! RPSC! SEL! Clonotypes: 22 junio 1990, AMES! COL! (the illustration is apparently based on this collection, the number on the plant was misplaced, flowers preserved in liquid, 14 oct. 1993, no full specimen prepared).

Epidendro polyanthogastrio Hágsater & Dodson affine sed caulibus nec incrassatis nec carnosis, floribus parvis semper binis in quoque caule differens.

Hierba epífita, reptante, de 13-25 cm de alto. **Raíces** basales, delgadas, carnosas, blancas, de ca 1 mm de grosor. **Tallos** delgados, tipo caña, teretes, rectos, delgados, formados de 6-7 entrenudos, originandose del 4° o 5° nudo del tallo anterior, 4-6 x 0.1-0.2 cm, la mitad basal parcialmente cubierta por vainas no foliosas, con el tiempo se deshacen, dejando el tallo desnudo. **Hojas** 3-5, desiguales, distribuidas hacia la mitad apical del tallo; vainas foliares articuladas, lisas cuando frescas, estriadas y pardas cuando secas, 6-12 mm de largo; lámina ovada, aguda, 1.1-3.2 x 0.5-0.9 cm. **Espatas** 1-2, desiguales, conduplicadas, angostamente semiovadas, agudas; 1.2-1.7 x 0.1.5-0.4 cm. **Inflorescencia** apical, erecta, del crecimiento maduro, florece una sola vez, corta; pedúnculo ligerament más largo que la espata, 10-30 mm de largo, raquis 3-5 mm de largo, racemosa. **Brácteas florales** más cortas que el ovario, triangulares, acuminadas, 3-8 mm de largo. **Ovario** inflado ventralmente en la mitad apical, terete, no ornamentado, 14-15 mm de largo. **Flores** 2, no resupinadas, simultáneas, verde con tintes cobrizos. **Sépalo dorsal** extendido, angostamente elíptico, agudo, margen extendido, 5-nervado, 8.5-9.5 x 2.5 mm. **Sépalos laterales** entreabiertos, angostamente ovados, oblícuos, agudos, margen extendido, 5-nervados, 8.0-9.0 x 2.5-3.2 mm. **Pétalos** extendidos, linear a linear-elípticos, agudos, margen extendido, 3-nervados, 8.0 x 1.5 mm. **Labelo** unido a la columna, entero, triangular, cordado, agudo, 5.5-6.0 x 5.0-5.5 mm; disco excavado, ornamentado con papilas diminutas, callo bilamelado, láminas triangulares, redondeadas, dobladas hacia los lados, con una quilla central; base del labelo abrazando la columna sin ocultarla. **Columna** corta, gruesa, 3 mm de largo. **Clinandrio** sin sobrepasar el cuerpo de la columna, entero. **Antera** reniforme, 4-locular. **Polinios** 4, obovoides, lateralmente comprimidos, subiguales; caudículas suaves y granulosas, ligeramente más largas que los polinios; viscidio semilíquido, transparente. **Rostelo** apical, hendido. **Lóbulos laterales del estigma** prominentes, de 2/3 partes del largo de éste. **Nectario** penetrando 1/3 del pedicelo, ensanchado ligeramente dentro del ovario sin formar vescicula, no ornamentado. **Cápsula** no vista.

Repent **herb**. **Roots** basal, thin. **Stems** terete, thin, fleshy, the new stem arising from the middle of the previous stem. **Leaves** 3-5, unequal, distributed throughout the apical half of the stem; sheaths tubular, smooth; blades articulate, ovate, apex acute. **Spathes** 1-2, unequal conduplicate, narrowly semi-obovate, acute. **Inflorescence** apical, erect, from mature stem, flowering only once, racemose. **Floral bracts** shorter than the ovary, triangular, acuminate. **Ovary** somewhat inflated ventrally at the apical half, unornamented. **Flowers** 2, non-resupinate, simultaneous, green copper-tinted. **Dorsal sepal** spreading, narrowly elliptic, acute, margin spreading, 5-veined. **Lateral sepals** partly spreading, narrowly ovate, oblique, acute, margin spreading, 5-veined. **Petals** spreading, linear to linear-elliptic, acute, margin spreading, 3-veined. **Lip** entire, triangular, acute, base cuneate, disc excavate, minutely papillose, callus billamellate, the apical edge of the rounded keels bent outward, extending into a central keel, sides of the lip upturned in natural position so as to embrace the apex of the column without hiding it. **Column** short, thick. **Clinandrium** not surpassing the body of the column, margin entire. **Anther** reniform, 4-celled. **Pollinia** 4, obovoid, laterally compressed, subequal; caudicles smooth and granulose, slightly longer than the pollinia; viscidium semi-liquid, transparent. **Rostellum** apical, slit. **Lateral lobes of the stigma** more than half its length. **Nectary** penetrating one third of the pedicel, somewhat widened within, unornamented.

OTHER SPECIMENS: COLOMBIA: Nariño: *Escobar 5200*, AMO! **ECUADOR: Pichincha:** *Dodson 16351*, QCA! QCNE! RPSC! *Hirtz 1663*, AMO!

DISTRIBUTION AND ECOLOGY: Ecuador and Colombia, 1700-2400 m altitude, on rocks in road cuts. Flowering January to March.

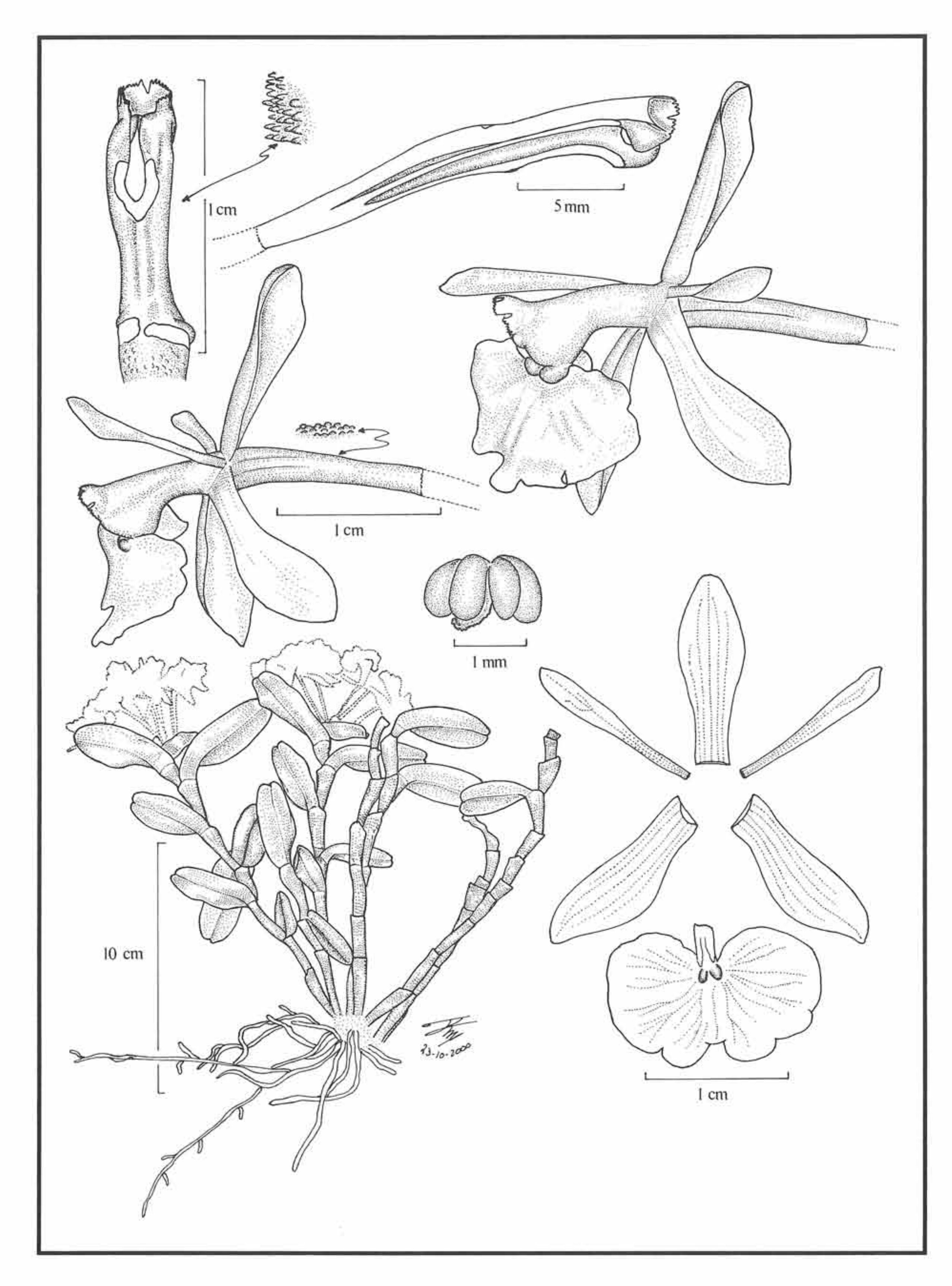
RECOGNITION: *Epidendrum bianthogastrium* belongs to the megagastrium group which is recognized by its sympodial habit, with new stems arising from a middle internode of the previous stem, the presence of an ovate spathe and the excavated disc of the lip, somewhat similar to many *Malaxis*, with the area covered by papillae. The species is identified by its stems, relatively small flowers (sepals 8-9.5 mm long), always 2 per inflorescence, green with coppery hue, triangular, cordate lip in a non-resupinate, somewhat horizontal position. Similar to *E. polyanthogastrium* which has fleshy, thickened stems and more numerous flowers, up to 8. *Epidendrum amplexigastrium* Hágsater has a trilobed, cuneate, lip, with the lateral lobes semiobovate and directed forwards and embracing the column and overlapping in natural position. *Epidendrum megagastrium* has a triangular, cordate lip but the lateral lobes do not cover the apex of the column, the sepals are 20 mm long. *Epidendrum quisayanum* Schltr. is easily recognized by its bright purple flowers.

CONSERVATION STATUS: DD. Data deficient.

ETYMOLOGY: From the Latin "bi", two, and the Greek "άνθος" flowers, in reference to the usual number of flowers and "γαστέρος", belly or womb, in reference to the group of species with an excavated, papillate, disc of the lip which is quite unusual in the genus *Epidendrum*, but typical of this group.

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Authors: E. Hágsater & C. H. Dodson **Illustrator: R. Jiménez M.** **Editors: E. Hágsater & L. Sánchez S.**
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EPIDENDRUM BORCHSENII Hágsater & Dodson Plate 418

EPIDENDRUM BORCHSENII Hágsater et Dodson, *sp. nov.*

Type: ECUADOR: Pichincha: Road Valle Hermoso-Los Bancos, km 7 (turn off at km 24 on road Sto. Domingo-Quinindé), 450 m, 25 May 1994, ***F. Borchsenius, H. Navarrete and G. Quezada 265***. Holotype: QCA! (illustration voucher). Isotype: AMO! (flowers in spirit).

Epidendro carnevalii Hágsater & L. Sánchez similare sed foliis longioribus, ovario ad basem inflato, labelli lobuli medii lobulis suborbicularibus non divergentibus, labelli base sine venas incrassatas, clinandrio tripartito, parte centrali bifida discrepans.

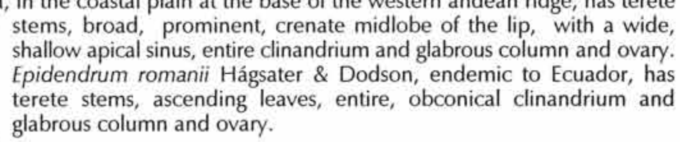
Hierba epífita, cespitosa, 14-16 cm de alto. **Raíces** basales, carnosas, 0.6-1 mm de grosor. **Tallo** sencillo, tipo caña, lateralmente comprimido, flexuoso, 11-12.7 x 0.3-0.4 cm. **Hojas** 6-10, equidistantes a lo largo del tallo; vaina lateralmente comprimida, lisa, 1.3-1.6 cm de largo; lámina subcoriácea, elíptica, ápice bilobado, margen entero, lisa, verde, 2.1-4.3 x 1.0-1.5 cm. **Espata** ausente. **Inflorescencia** apical en el tallo maduro, florece una sola vez, sésil. **Brácteas florales** mucho más cortas que el ovario. **Flores** 5-7, simultáneas, resupinadas, palidamente amarillento verdosas . **Ovario** inflado en la base, terete, papiloso, 14-20 x 1.5-1.7 mm. **Sépalos** subcoriáceos, glabros, libres. **Sépalo dorsal** elíptico, redondeado, margen algo revoluto, extendido, 5 nervado, 13.3 x 4.8 mm. **Sépalos laterales** oblicuamente elípticos, agudos, margen entero, algo revoluto, 5 nervados, 13.0 x 5.5 mm. **Pétalos** extendidos, membranáceos, oblanceolados, agudos, margen entero, extendido, 3 nervados, x 12.7-13 x 1.8-2.0 mm. **Labelo** unido a la columna, trilobado, 10 x 15.5 mm; bicalloso, los callos subglobosos; lóbulos laterales semiorbiculares a elípticos, margen entero a ligeramente ondulado, 5 x 8.5 mm; lóbulo medio corto, con seno ancho, formando dos lóbulos suborbiculares, 1.6 x 7.7 mm. **Columna** ligeramente arqueada, delgada, papilosa, 9.3 x 1.5 mm. **Clinandrio** prominente, tripartido, eroso fimbriado, la parte central bífida. **Antera** no vista. **Polinios** 4, subiguales, semiovados, lateralmente comprimidos. **Rostelo** apical, hendido. **Lóbulos laterales del estigma** pequeños. **Nectario** penetrando 1/2 del ovario, no ornamentado. **Cápsula** no vista.

Epiphytic, caespitose **herb**. **Stems** simple, laterally compressed, flexuous. **Leaves** 6-10, elliptic, apex bilobed. **Spathe** absent. **Inflorescence** apical from the mature stems, sessile. **Floral bracts** shorter than the ovary. **Flowers** 5-7, simultaneous, resupinate, pale yellowish-green. **Ovary** terete, inflated at the base, papillose. **Sepals** subcoriaceous, glabrous, 5-veined; the laterals oblique, acute. **Petals** spreading, membranaceous, oblanceolate, acute, 3-veined. **Lip** united to the column, trilobed; bicallose, the calli subglobose; lateral lobes semiorbicular to elliptic, entire to undulate; midlobe short, with a wide sinus, forming two suborbicular lobes. **Column** somewhat arcuate, papillose. **Clinandrium** prominent, tripartite, erose-fimbriate, the central part bifid. **Anther** not seen. **Pollinia** 4, subequal, semiovate, laterally compressed. **Rostellum** apical, slit. **Nectary** penetrating half of the ovary, unornamented. **Capsule** not seen.

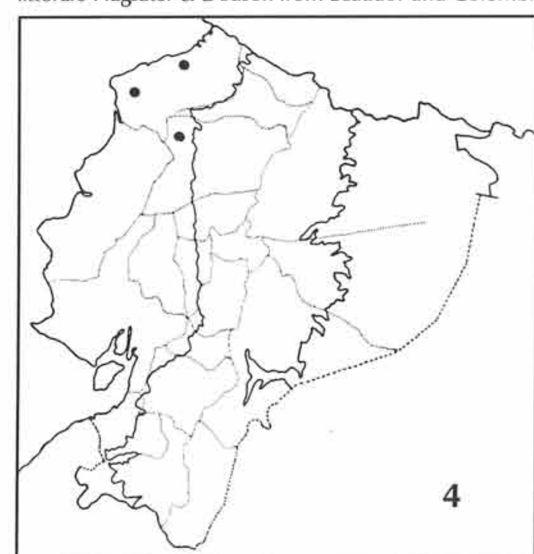
OTHER SPECIMENS: ECUADOR: Esmeraldas: Quinindé, Bilsa Biological Station. Mache Mountains. 35 km W of Quinindé, 5 km W of Santa Isabel, 00°21'N 79°44'W, 400-600 m, July 15, 1996, *J. L. Clark 2872* QCNE! SEL! Río Santiago at Rocafuerte, 50 m, 4 sept. 1980, *L. Holm-Nielsen et al. 24914* AAU!

DISTRIBUTION AND ECOLOGY: Endemic to the western andean ridge of Ecuador, in primary forest, from 50 to 600 m altitude. Flowering from May to September.

RECOGNITION: *Epidendrum borchsenii* belongs to the difforme group, and can be recognized by its lateral compressed stems, larger leaves, inflated ovary, suborbicular lobes of the midlobe of the lip, non-keeled lip, subglobose calli, prominent, tripartite clinandrium, the central part bifid, papillose column and ovary. It is similar to *E. carnevalii*, a species endemic to Venezuela, in the central and western section of the Coastal Range, but that has somewhat laterally compressed stems, short leaves, divergent, prominent calli, entire clinandrium. *Epidendrum chlorocorymbos* Schltr., from the Atlantic Slopes from Mexico to Panama has larger plants and flowers, terete stems, more than 10 flowers, short clinandrium and glabrous column and ovary. *Epidendrum littorale* Hágsater & Dodson from Ecuador and Colombia, in the coastal plain at the base of the western andean ridge, has terete stems, broad, prominent, crenate midlobe of the lip, with a wide, shallow apical sinus, entire clinandrium and glabrous column and ovary. *Epidendrum romanii* Hágsater & Dodson, endemic to Ecuador, has terete stems, ascending leaves, entire, obconical clinandrium and glabrous column and ovary.





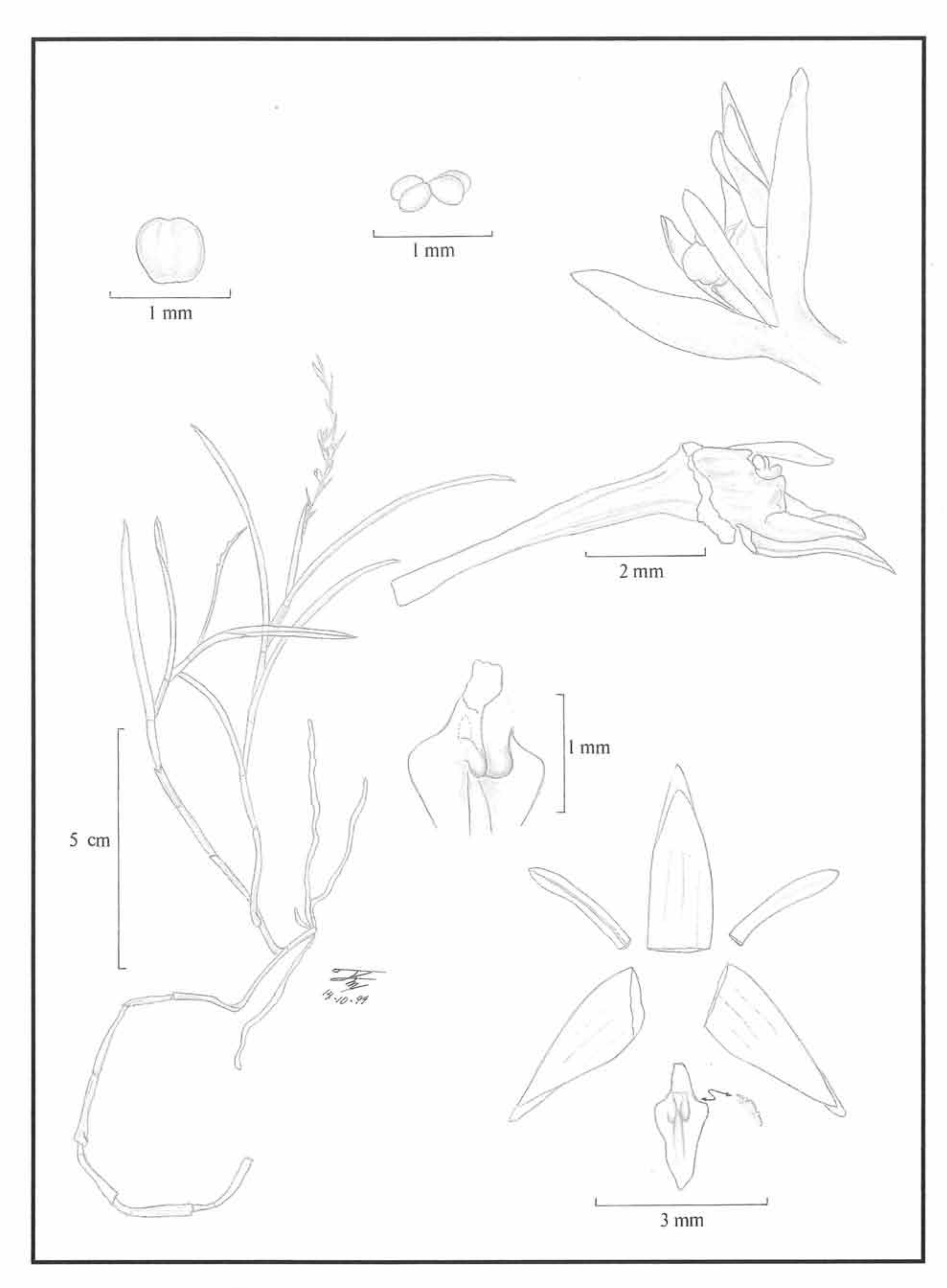


CONSERVATION STATUS: DD. Data deficient.

ETYMOLOGY: In honor or Finn Borchsenius, who collected the material from which the type was prepared.

REFERENCES: Hágsater , E. & C.H. Dodson. 1993. *Epidendrum littorale* in E. Hágsater, y G. Salazar (eds.) **Icon. Orch**. 2: pl. 153. Asoc. Mex. Orq.; Hágsater , E. & C.H. Dodson. 1993. *Epidendrum romanii* in E. Hágsater, y G. Salazar (eds.) **Icon. Orch**. 2: pl. 182. Asoc. Mex. Orq.; Hágsater, E. & L. Sánchez. 1999. *Epidendrum carnevalii* in E. Hágsater, L. Sánchez y J. García-Cruz (eds.) **Icon. Orch**. 3: pl. 321. Herbario AMO.

Authors: E. Hágsater & C. H. Dodson **Illustrator: R. Jiménez M.** **Editors: E. Hágsater & L. Sánchez S.**
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EPIDENDRUM BOSCOËNSE Hágsater & Dodson Plate 419

EPIDENDRUM BOSCOËNSE Hágsater et Dodson, *sp. nov.*

Type: ECUADOR: Morona-Santiago: pass from San Juan Bosco to Gualaquiza, swamp near Limón, 1000 m, 17 Feb. 1986. ***A. Hirtz, C. & J. Luer & A. Embree 2781.*** Holotype: RSPC! (illustration voucher). Isotype: RPSC!

Epidendro armeniaco Lindl. simile sed habitu minore, labello integro trulliformi, inflorescentia laxiflora, foliis linearibus 2 mm latis recedens.

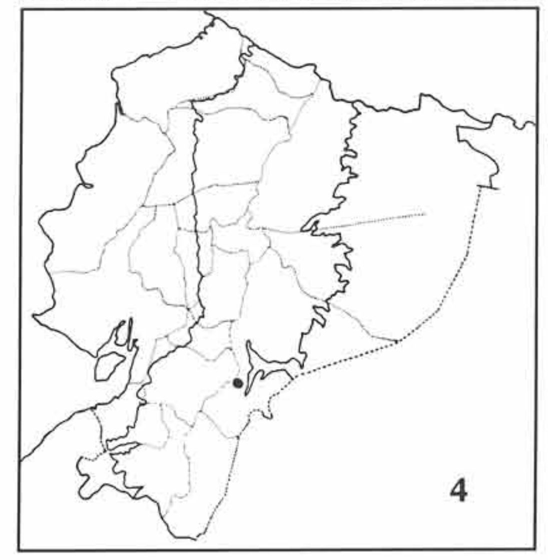
Hierba epífita, subcespitosa, de 13 cm de alto. **Raíces** basales, filiformes, de 0.5-1 mm de grosor. **Tallos** sencillos, tipo caña, ligeramente flexuosos, teretes, producidos de cerca de la base del tallo anterior 6 x 0.10-0.15 cm. **Hojas** 4, distribuidas en los 2/3 apicales del tallo; vainas tubulares, estriadas cuando secas, las inferiores no foliosas, 1-1.2 cm de largo; lámina linear, aguda, gramínea, con una quilla dorsal, progresivamente más largas, 2.5-5.5 x 0.2 cm. **Espata** 1, linear, conduplicada, aguda, más larga que el pedúnculo y ocultándolo, 2.3 x 0.15 cm. **Inflorescencia** apical, del crecimiento maduro, racemosa, suberecta, raquis de 4 cm de largo, pedúnculo de 1.5 cm de largo. **Brácteas florales** linear lanceoladas, acuminadas, más largas que el ovario, 4.5-6 x 1.0-1.5 mm. **Ovario** terete, algo más grueso en la mitad apical, 10 x 1.4 mm. **Flores** 10, pequeñas, el labelo dirigido hacia el ápice del raquis, al parecer sucesivas, verdes. **Sépalos** entreabiertos, ovado lanceolados, agudos, cóncavos, 3-nervados, 3.3 x 1 mm, los **laterales** con una quilla dorsal prominente en el ápice, oblicuos. **Pétalos** entreabiertos, ligeramente arqueados, lineares, ligeramente ensanchados hacia el ápice, agudos, 1-nervados, con la vena gruesa, 2.2 x 0.18 mm. **Labelo** unido a la columna, entero, truliforme, agudo, base obcuneada, margen de la lámina diminutamente papiloso, 1.8 x 0.9 mm; bicalloso, los callos subglobosos, lateralmente comprimidos, con una quilla baja y roma que llega cerca del ápice. **Columna** corta, gruesa, 1.2 mm de largo, **Clinandrio** reducido, entero. **Rostelo** no visto. **Lóbulos** laterales del estigma no vistos. **Antera** subglobosa, con una quilla roma al frente, 0.5 x 0.5 mm. **Polinios** 4, obovoides, lateralmente comprimidos, subiguales, caudículas más cortas que los polinios. **Nectario** no visto. **Cápsula** no vista.

Epiphytic, subcaespitose **herb. Stems** simple, cane-like, slightly flexuous, terete, produced from near the base of the previous stem. **Leaves** 4, distributed throughout the upper 2/3 of the stems, sheaths tubular, striated when dry, blades grass-like, linear, acute, margin entire, progressively longer, 2 mm wide. **Spathe** linear, tubular, conduplicate, acute, longer than the peduncle. **Inflorescence** apical, racemose, suberect. **Floral bracts** linear-lanceolate, acuminate, longer than the ovary. **Ovary** terete, somewhat wider at the apical half. **Flowers** 10, small, lip directed towards the apex of the rachis, apparently successive, green. **Sepals** partly spreading, ovate-lanceolate, acute, concave, 3-veined, the **laterals** with a prominent dorsal keel, oblique. **Petals** partly spreading, slightly arched, linear, slightly widened near the apex, acute, 1-veined, the vein thickened. **Lip** united to the column, entire, trowel-shaped, acute, the base obcuneate, margin minutely papillose; bicallose, the calli subglobose, with a low rounded keel reaching the apex. **Column** short, thick. **Clinandrium** reduced, entire. **Pollinia** 4, obovoid, laterally compressed, subequal, caudicles shorter than the pollinia.

OTHER SPECIMENS: None seen.

DISTRIBUTION AND ECOLOGY: Known only from the type, on the Amazonian slope of the Andes in southern Ecuador, at 1000 m. Epiphytic in swamp. Flowering in February.

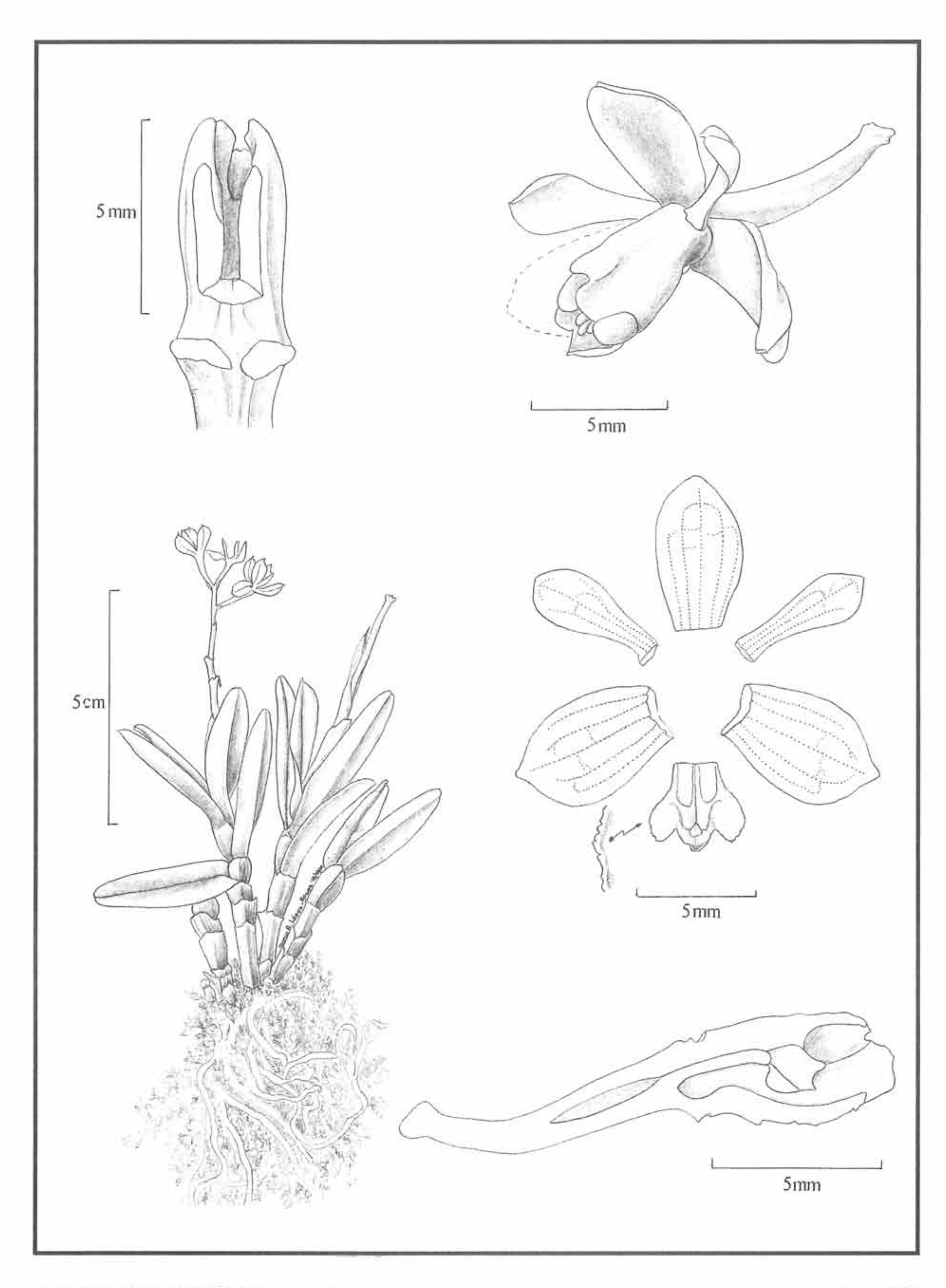
RECOGNITION: *Epidendrum boscoënse* at first sight looks like an oversize *E. miserrimum* Rchb. f., but upon closer inspection belongs to the alpicolum group, with the parallel-sided spathe and fox-tail inflorescence, though spaced and lax-flowered. It is recognized by the long, narrow leaves (2 mm wide), the sepals 3.3 mm long and the entire, trowel-shaped lip. *Epidendrum armeniacum* Lindl. has similar-sized flowers, but the lip is 3-lobed and the habit much larger, the inflorescence a densely flowered fox-tail. *Epidendrum dialyrhombicum* Hágsater & Dodson also has narrow leaves, but these are some 4 mm wide, and the inflorescence is compact, many-flowered and the lip free from the column.



CONSERVATION STATUS: DD. Data deficient.

ETYMOLOGY: In reference to the town of San Juan Bosco, near where the type specimen was found.

Authors: E. Hágsater & C. H. Dodson **Illustrator: R. Jiménez M.** **Editors: E. Hágsater & L. Sánchez S.**
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EPIDENDRUM BOYLEI Hágsater & Dodson

Plate 420

EPIDENDRUM BOYLEI Hágsater et Dodson, *sp. nov.*

Type: ECUADOR: Carchi: Cerro Golondrinas area, access via Chamorro property above El Carmen, which is above Hualchán. On peak of Cerro 2840. 00° 50´N 78° 12´ W, 2850-2860 m, 24 July 1993, ***Brad Boyle & P. Hibbs 2307.*** Holotype: MO! (illustration voucher).

Epidendro manco Lindl. similare sed floribus respectu caulis erectis, labello trilobato, sepalis petalisque brunneis, labello albo-cremeo differt.

Hierba epífita, cespitosa, erecta, 8.5-10 cm de alto. **Raíces** basales, carnosas, delgadas, 0.5-1 mm de grosor. **Tallos** sencillos, tipo caña, rectos, ancipitosos, 2.5-3.5 x 0.2-0.5 cm. **Hojas** 3-4 distribuidas en la mitad apical del tallo, erectas; vaina tubular, ancipitosa, estriada, 0.5-0.7 x 0.3-0.6 cm; lámina angostamente elíptica oblonga, desigualmente bilobada, con una quilla dorsal, margen apical crenado, coriácea, 3.0-3.5 x 0.6-0.8 cm. **Espatas** 1-2, tubulares, oblongas, ancipitosas, subagudas, 1.8-2.0 x 0.4-0.5 cm. **Inflorescencia** apical, racemosa, erecta, 6 cm de largo; pedúnculo corto, terete a lateralmente aplanado, recto, no ornamentado. **Brácteas florales** mucho más cortas que el ovario a obsoletas. **Ovario** terete, no ornamentado, ligeramente dilatado hacia el ápice, 5-8 x 0.6-1.0 mm. **Flores** 4, sucesivas, no resupinadas, sépalos y pétalos pardos, labelo blanco cremoso; fragancia no registrada. **Sépalos** extendidos, ligeramente cóncavos, libres, obovados, agudos, margen entero, 5-nervados, 5.5-6.4 x 2.5-3.2 mm; el **dorsal** subredondeado. **Pétalos** extendidos, ligeramente cóncavos, libres, espatulados, obtusos, margen entero, 3-nervados, 4.8-5.5 x 1.5-2.0 mm. **Labelo** unido a la columna, reducido, trilobado, carnoso, 2.5 x 4.0 mm; bicalloso, con una quilla corta en medio, dando la apariencia de una estructura gruesa trilobada; lóbulos laterales diagonalmente subrómbicos, redondeados, margen finamente eroso; lóbulo medio semicircular, apiculado. **Columna** recta, 5 mm de largo. **Clinandrio** corto, entero. **Antera** no vista. **Polinios** no vistos. **Rostelo** subapical, hendido. **Lóbulos laterales del estigma** de 1/2 de largo de la cavidad estigmática. **Nectario** sin traspasar el perianto, no ornamentado. **Cápsula** no vista.

Epiphytic, caespitose **herb. Stems** cane-like, short, ancipitose. **Leaves** 3-4, sheaths ancipitose, blade oblong to narrowly elliptic, unequally bilobed, coriaceous, apical margin finely crenate. **Spathes** 1-2, tubular, narrow oblong, ancipitose, subacute. **Inflorescence** apical, racemose, erect, few-flowered. **Floral bracts** much shorter than the ovary to obsolete. **Ovary** terete. **Flowers** 4, successive, non-resupinate, sepals and petals brown, lip creamy-white. **Sepals** spreading, free, obovate, rounded to acute, 5-veined. **Petals** spreading, spathulate, obtuse, 3-veined. **Lip** reduced, 3-lobed, fleshy, bicallose with a small intermediate short keel, producing a 3-lobed appearance; lateral lobes diagonally subrhombic, rounded, margin finely erose, midlobe semicircular, apiculate. **Column** straight. **Clinandrium** short, entire. **Nectary** short, not surpassing the perianth.

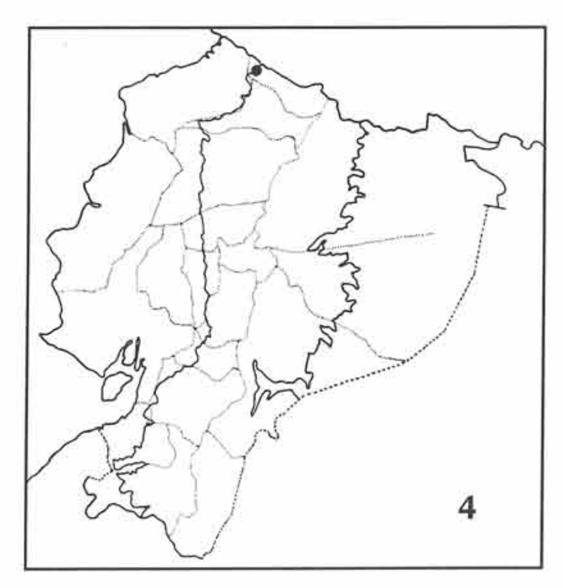
OTHER SPECIMENS: None seen.

RECOGNITION: *Epidendrum boylei* belongs to the mancum group and can be recognized by its small, caespitose plants with brown flowers and a creamy white lip, few flowers, ancipitose stems, erect leaves, petals 3-veined, 3-lobed lip. It's similar to *E. mancum*, but the latter has orange and yellow flowers, elliptic-ovate, spreading leaves, entire lip. *Epidendrum brachyglossum* Lindl., is found at lower altitudes, plants are larger, have linear-lanceolate leaves, and a more or less 3-lobed lip.

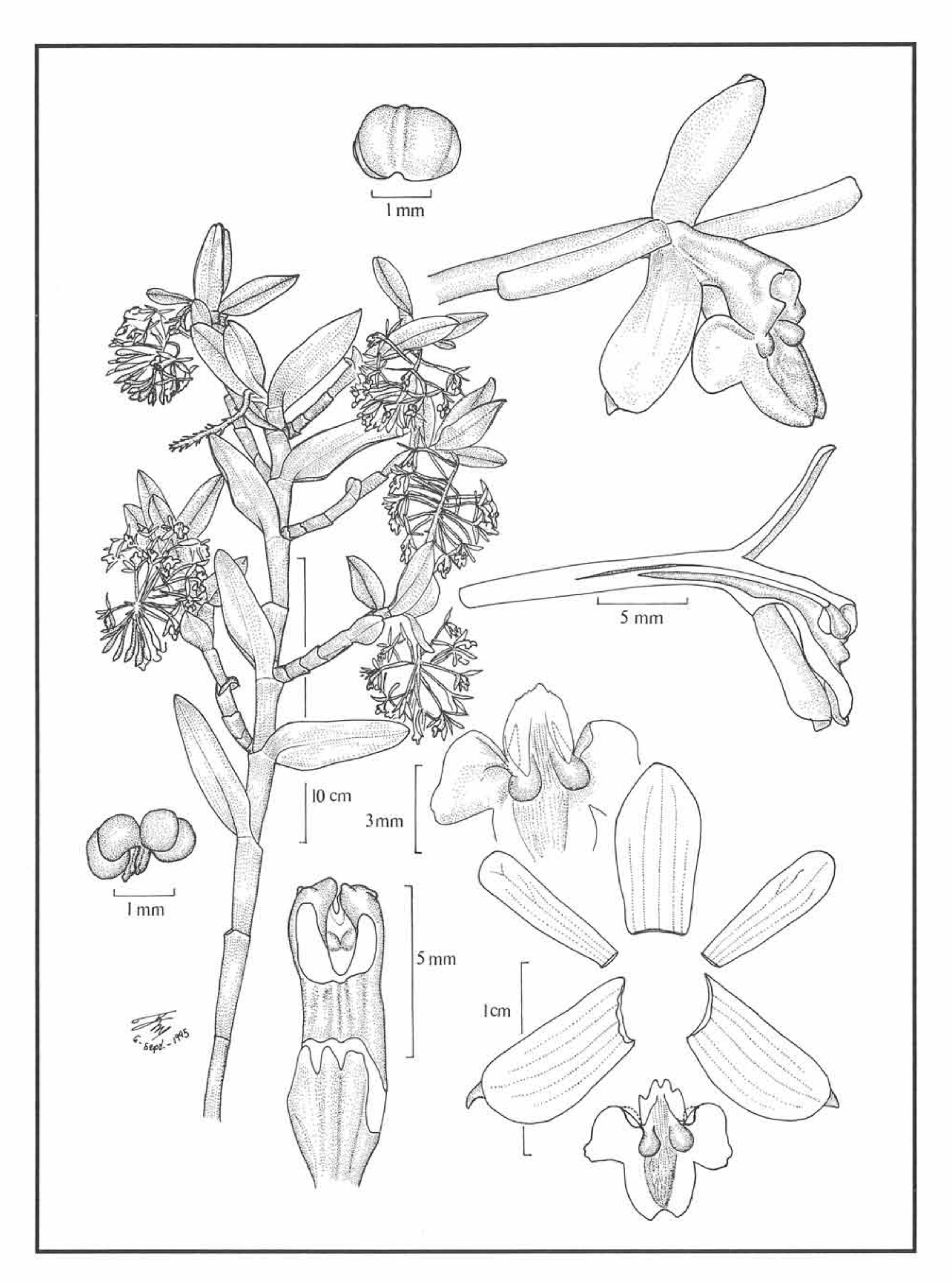
DISTRIBUCION AND ECOLOGY: Known only from the type, epiphytic on shrub in páramo-elfin forest, 2850-2860 m. Flowering in July.

CONSERVATION STATUS: DD. Data deficient.

ETYMOLOGY: In honor of Brad Boyle, who collected the type specimen.



Authors: E. Hágsater & C. H. Dodson **Illustrator: M. López R.** **Editors: E. Hágsater & L. Sánchez S.**
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EPIDENDRUM BREVICERNUUM Hágsater & Dodson

Plate 421

EPIDENDRUM BREVICERNUUM Hágsater et Dodson, *sp. nov.*

Type: ECUADOR: Carchí: Tulcán, km 9.8 al sur de Tulcán hacia Ibarra, 3120 m, en talud, 10 jul. 1990. ***E. Hágsater, C. H. Dodson, D. Rubio y N. Revelo 10676.*** Holotype: QCNE! Isotypes: AMES! AMO! (illustration voucher), COL! HUA! K! QCA! RPSC! SEL!

Epidendro cernuo Kunth affine sed inflorescentia subsphaerica, floribus viridibus, labello breviore, suis lobulis subaequalibus recedit.

Hierba terrestre, de simpodio erecto ramificado arriba, ramas menores que el tallo principal, 60-140 cm de alto. **Raíces** basales, carnosas, gruesas, 2.5-5.5 mm de grosor. **Tallos** ramificados arriba, tipo caña, teretes, rectos, el principal 108-135 x 0.3-0.85 cm; las secundarias 4-63 x 0.25-0.6 cm; las terciarias 9-13.5 x 0.2-0.25 cm; las ramificaciones adicionales 3.5-4.5 x 0.1-0.15 cm. **Hojas** numerosas en el principal, 3-11 en las ramas, distribuidas a lo largo de los tallos, alternas; vainas tubulares, finamente rugosas, de 1-5 cm de largo; lámina elíptica a lanceolada, desigualmente bilobada, margen entero, subcoriácea, lisa, verde, las del tallo principal mayores, 5.7-10.5 x 1.5-2.5 cm, las de las ramas 2.7-4.6 x 1.0-1.8 cm. **Espata** ausente. **Inflorescencia** apical, del tallo maduro, tanto del tallo principal como de las ramas, florece una sola vez, racemosa, arqueado nutante, subesférica, 4-9.5 cm de largo, pedúnculo terete, arqueado, no ornamentado, sin brácteas. **Brácteas florales** mucho más cortas que el ovario, triangulares, acuminadas, 2-7 mm de largo. **Flores** 10-40, simultáneas, resupinadas, blanco verdoso a verdes, sin fragancia. **Ovario** delgado, terete, no inflado, no ornamentado, 12-37 mm de largo. **Sépalos** extendidos, libres, quilla dorsal prominente y acuminada en el ápice de los laterales, glabros, membranáceos; **dorsal** obovado a oblanceolado, obtuso a redondeado, margen extendido, 3-5-nervado, 9-11 x 3.5-4.3 mm; **laterales** oblongos a elípticos, redondeado aristado, las aristas prominentes, margen extendido, 5-nervados, 8-12 x 3-5 mm. **Pétalos** extendidos, angostamente oblanceolados, redondeado, margen extendido, entero, membranáceos, 1-3-nervados, 8-10.5 x 1-2.5 mm. **Labelo** unido a la columna, trilobado, base cordada, 6-6.5 x 7.6 –9.5 mm; bicalloso, con un engrosamiento algo rugoso y ancho en el disco y hasta el ápice del labelo; lóbulos laterales oblicuamente semiobovados a suborbiculares, margen entero; lóbulo medio ligeramente más grande, subrectangular, emarginado, margen entero, 3 x 3.7 mm. **Columna** recta, gruesa, 5-7 mm de largo. **Clinandrio** reducido, margen entero a sinuoso. **Antera** reniforme, 4-locular. **Polinios** 4, obovoides, lateralmente comprimidos, caudículas suaves y granulosas, cortas. **Rostelo** subapical, hendido. **Lóbulos laterales del estigma** de más de la mitad del largo de la cavidad estigmática. **Nectario** penetrando casi la mitad del ovario, delgado, no ornamentado. **Cápsula** no vista.

Terrestrial **herb**, branching above from main stem, branches smaller. **Roots** basal, fleshy. **Leaves** numerous on the main stem, 3-11 on the secondary stems, elliptic to lanceolate, unequally bilobed, subcoriaceous, distributed throughout the stems. **Inflorescence** apical from the mature stem, arching, racemose. **Flowers** 10-40, simultaneous, resupinate, greenish white to green, without fragrance. **Sepals** oblong-obovate, rounded, with a prominent apical acuminate keel surpassing the body in the laterals, 5-veined, membranaceous. **Petals** narrowly oblanceolate, rounded, 1-3-veined. **Lip** 3-lobed, base cordate; bicallose, the disk fleshy thickened as far as the apex; lateral lobes semi-ovate to suborbicular, margins entire, midlobe subrectangular, apex emarginate. **Column** straight, thick. **Clinandrium** short, entire to sinuous. **Anther** reniform, 4-celled. **Pollinia** 4, obovoid, laterally compressed. **Nectary** penetrating nearly one-half of the pedicel.

OTHER SPECIMENS: COLOMBIA: Antioquia: Ratón Pelado, *R. Escobar 3989,* AMO! Alto de las Palmas, *R. Escobar 5005*, AMO! Cerro Padre Amaya, *Hágsater et al. 7254*, AMO! Fizebad, *Colomborquídeas sub Hágsater 11666*, AMO! Mesopotamia, *Colomborquídeas sub Hágsater 11672*, AMES! AMO! K! Km 99, Medellín-Yarumal, *Hágsater 11678*. AMO! COL! JAUM! Boquerón de Toyo, *P. Ortíz Valdivieso 333,* HPUJ! El Retiro, *P. Ortíz Valdivieso s.n.*, HPUJ! Hacienda Normandía, *M. Ospina H. 90*, AMES! **ECUADOR: Sucumbios:** El Mirador, *Hágsater 10619*, AMO!



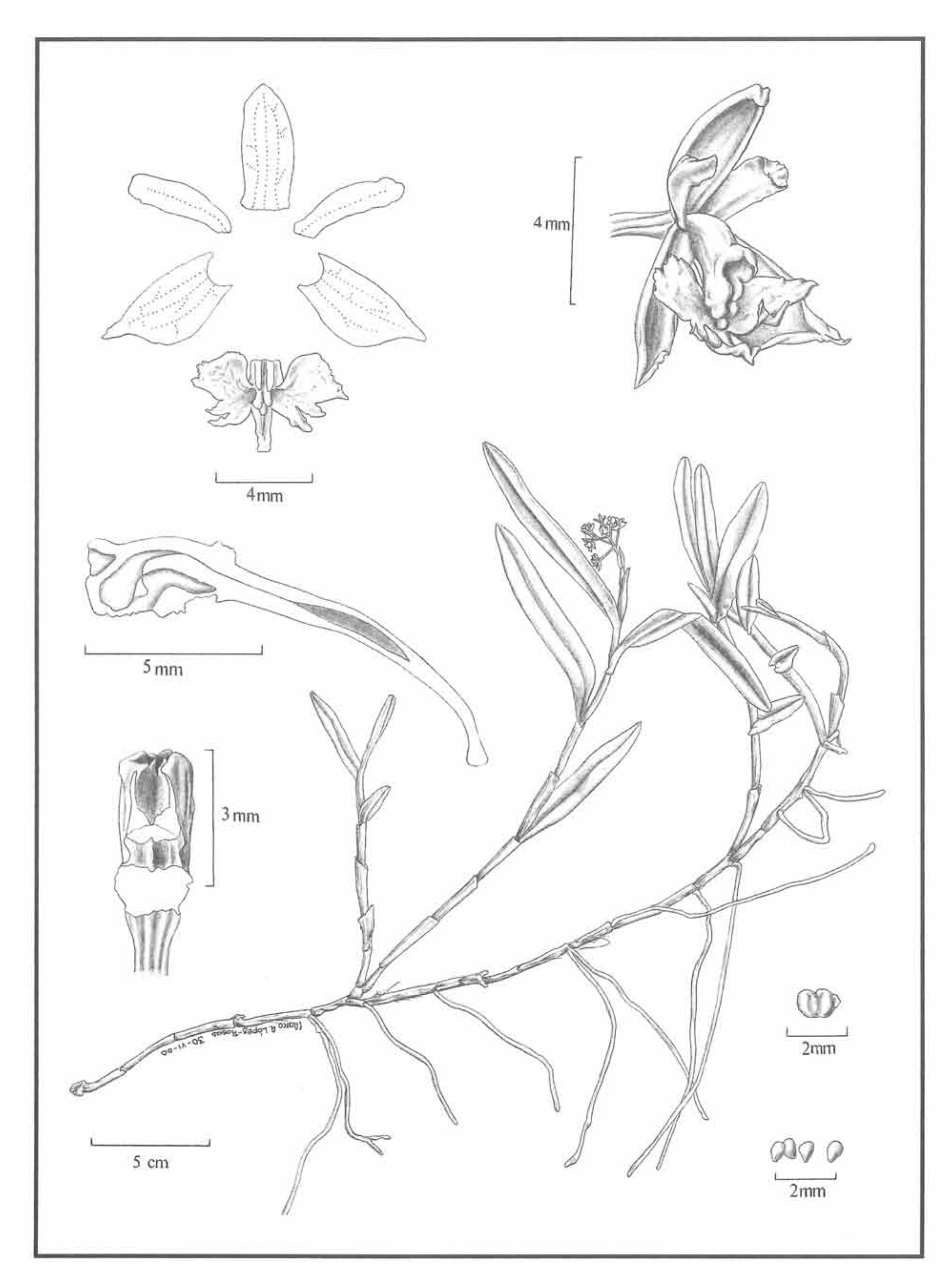
DISTRIBUTION AND ECOLOGY: Known from northern Ecuador, Carchi and Sucumbios, in the interandean valley, at 3100 m altitude, as a terrestrial, and from the highlands around Medellín, Antioquia, at the northern end of the Cordillera Central of Colombia, at around 2450 m altitude; growing on roadside banks. Flowering from April to July and November-December.

RECOGNITION: *Epidendrum brevicernuum* belongs to the cernuum group, the subspherical inflorescence, greenish white to green flowers, 3-lobed lip, with the lobes subequal, the wide keel on the disk and the short dorsal keels of the 5-veined sepals, separate this species from *E. cernuum* Kunth which is close but has a long inflorescence, somewhat like a fox-tail, with brown and yellow flowers, the midlobe of the lip is longer than broad, the lateral lobes much smaller, the lateral sepals are prominently aristate, and the sepals 3-veined. *Epidendrum guagra-urcuense* Hágsater & Dodson has a pandurate lip and erose-fimbriate, funnel-shaped clinandrium, leaves up to 13.5 x 2.6 cm.

CONSERVATION STATUS: DD. Data deficient.

ETYMOLOGY: From the Latin *brevis*, short, and *cernuus*, slightly drooping, in reference to the shorter raceme and lip which separates this species from its close relative.

Authors: E. Hágsater & C. H. Dodson **Illustrator: R. Jiménez M.** **Editors: E. Hágsater & L. Sánchez S.**
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EPIDENDRUM BREVIVENIOIDES Hágsater & Dodson

Plate 422

EPIDENDRUM BREVIVENIOIDES Hágsater et Dodson, *sp. nov.*

Type: ECUADOR: Imbabura, Vía Mariano Acosta-Palmira-Tambo-Nueva América, "Tambo-Nueva América", 11800 a 10000 pies, 29 dic. 1979, ***J. Jaramillo, F. Coello & F. Sarmiento 1630.*** Holotype: QCNE! Isotypes: AAU! (illustration voucher), QCA! QCNE!

Epidendro brevivenio Lindl. simile sed foliis angustioribus, inflorescentia brevi 8-10-flora, labelli loborum lobis lateralibus latioribus et non divergentibus, clinandrio infudibuliformi carnoso discrepans.

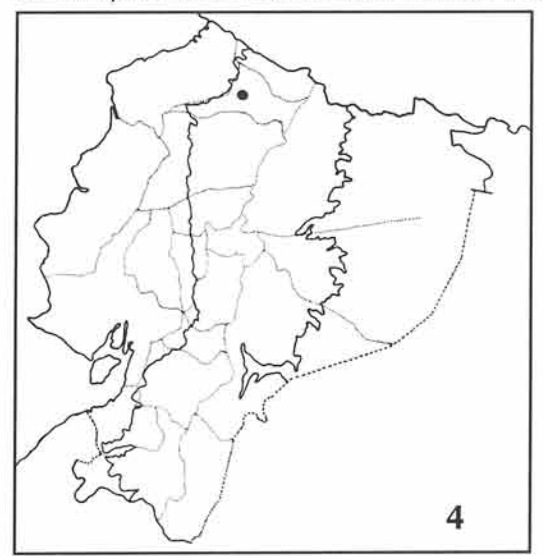
Hierba epífita, rastrera, 20-25 cm de alto. **Raíces** filiformes, producidas en el rizoma, 0.5-1.3 mm de grosor. **Tallos** producidos del tercer o cuarto entrenudo del tallo, de manera que aparecen separados por rizomas rastreros de 6-12 cm de largo; erectos, teretes, 9-32 x 0.15-0.25 cm. **Hojas** 4-5, distribuidas desde la parte media del tallo hacia el ápice; vaina tubular, estriada en seco, 2-3 x 0.2-0.3 cm; lámina angostamente elíptica oblonga, asimétricamente bilobada, 3-11 x 0.6-1.5 cm. **Espata** 1, tubular, lateralmente comprimida, aguda, de lados paralelos, 30 x 3 mm. **Inflorescencia** apical en el tallo maduro, racemosa, erecta, compacta, más corta que la hoja, 5.5 cm de largo; pedúnculo corto, 4 mm de largo, cubierto casi en su totalidad por la espata, con una bráctea cerca del raquis, más larga que las brácteas florales, triangular, aguda, 15 mm de largo. **Brácteas florales** linear triangulares, acuminadas, progresivamente más cortas, 4-10 mm de largo. **Ovario** no inflado, terete, no ornamentado, 9-11 mm de largo. **Flores** 8-10, simultáneas, resupinadas, sépalos y pétalos verde pálido, labelo blanco, columna verde, fragancia no registrada. **Sépalos** extendidos, libres, elípticos, carina dorsal prominente, 3-nervados, 5-6 x 2-2.6 mm; el dorsal redondeado, los laterales oblicuos, agudos. **Pétalos** extendidos, libres, inflexos, oblongos, redondeados, 1-nervados, 4.5-4.7 x 1.0-1.2 mm. **Labelo** unido a la columna, trilobado, a primera vista 7 lobado, 4-4.2 x 6-6.6 mm; tricalloso, los basales prominentes, el medio mas corto, subgloboso y prolongándose en una quilla baja; lóbulos laterales trilobados: la sección basal suborbicular, irregularmente crenulada y subaguda; las secciones siguientes ligeramente laceradas, subtriangulares, agudas; lóbulo medio subrectangular, truncado, entero. **Columna** corta, arqueada, 3.8-4 mm de largo. **Clinandrio** corto, en forma de embudo, entero, carnoso. **Antera** reniforme, 4 locular. **Polinios** 4, obovoides. **Rostelo** apical, hendido. **Lóbulos laterales del estigma** de 1/2 de la cavidad estigmática. **Nectario** sin penetrar al ovario, no ornamentado. **Cápsula** no vista.

Epiphytic, repent **herb**. **Stems** produced from the 3rd- 4th internode of the previous stem, thus spaced along the repent rhizome, erect. **Leaves** narrowly elliptic-oblong, unequally bilobed. **Spathe** 1, tubular, laterally compressed, acute. **Inflorescence** apical, racemose, compact, with a bract near the apex of the peduncle. **Floral bracts** linear-triangular, acuminate. **Ovary** not inflated, terete, unornamented. **Flowers** 8-10, simultaneous, resupinate, sepals and petals pale green, lip white, column green. **Sepals** spreading, free, elliptic, with a prominent dorsal keel, 3-veined; dorsal rounded, the laterals oblique, acute. **Petals** spreading, free, inflexed, 1-veined. **Lip** united to the column, at first sight 7-lobed, 3-lobed; 3-callose, the basal calli prominent, the mid-callus short and subglobose, continued into a low keel; lateral lobes 3-parted, the basal part suborbicular, crenellate and subacute, the following parts lacerate, subtriangular, acute; midlobe subrectangular, truncate, entire. **Column** arched. **Clinandrium** short, funnel-shaped, entire, fleshy. **Anther** reniform. **Pollinia** 4, obovoid. **Rostellum** apical, slit. **Nectary** not surpassing the ovary, unornamented.

OTHER SPECIMENS: none seen.

DISTRIBUTION & ECOLOGY: Known only from Ecuador. Epiphytic, in high altitude wet forest, 3000-3900 m altitude. Flowering in December.

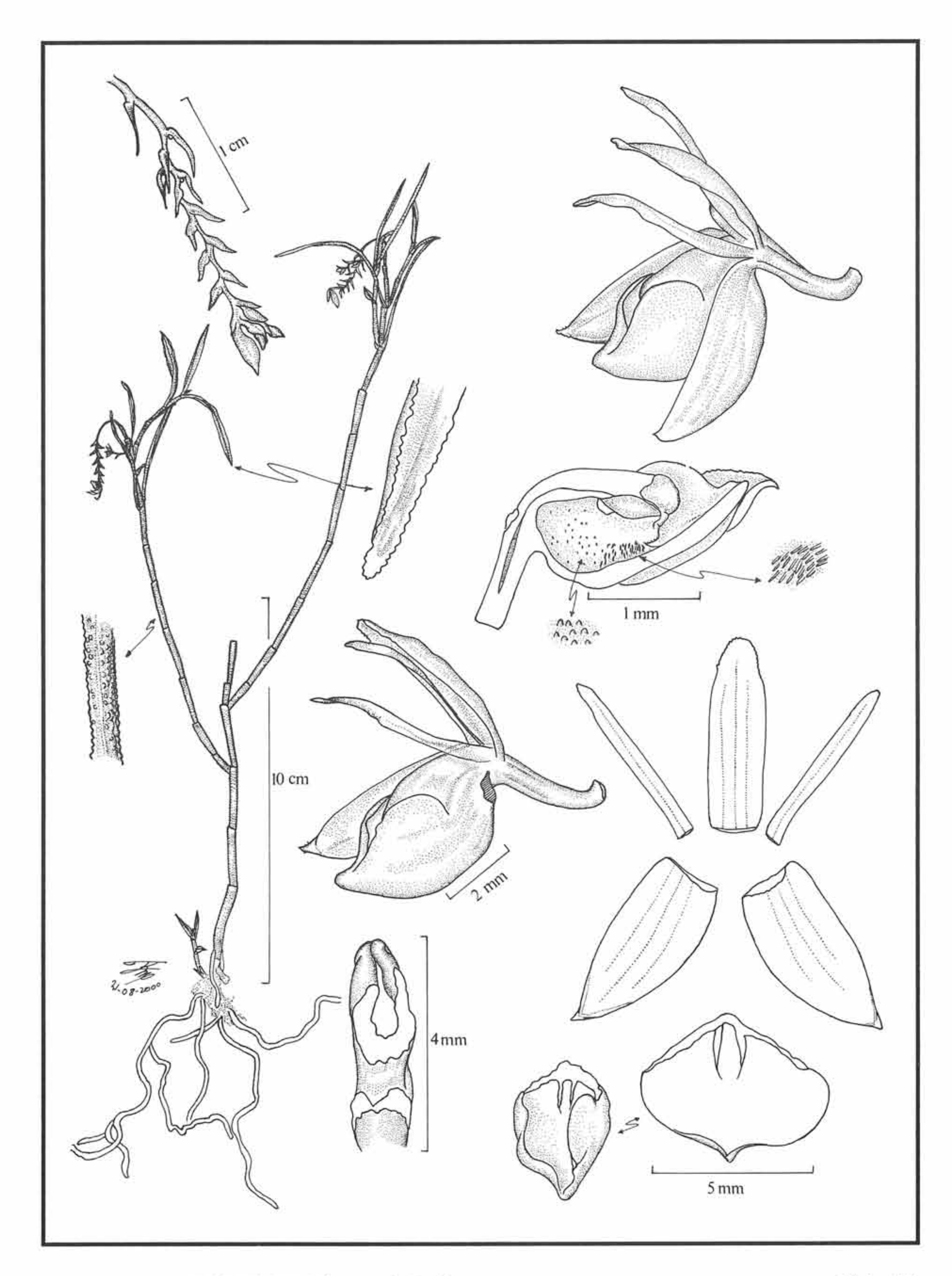
RECOGNITION: *Epidendrum brevivenioides* is a member of the brevivenium group, and can be recognized by the small inflorescence, peduncle with a tubular, acute spathe; 3-lobed lip appearing as 7-lobed due to the somewhat lacerate lateral lobes, the basal part suborbicular, crenulate and subacute, the following parts somewhat lacerate, subtriangular, rounded; midlobe subrectangular, truncate; 3 calli, the basal laminar, prominent, the central callus short, subglobose, with a low keel. Similar to *Epidendrum brevivenium* which has wider leaves, linear, acute petals, lateral lobes of the lip divided into filiform, divergent lobules. *Epidendrum guanacasense* Hágsater & Dodson has a more compact habit, shorter leaves, the lateral lobes of the lip with the margin sinuate, not deeply lacerate, clinandrium straight, not funnel-shaped. *Epidendrum spathulipetalum* Hágsater & Dressler has a similar lip, spathulate, erose petals, but belongs to the *Neowilliamsia* group and does not have any spathe.



CONSERVATION STATUS: DD: Data deficient.

ETYMOLOGY: In reference to the closely related species, *E. brevivenium*, and the ending *-oides*, indicating its similarity.

Authors: E. Hágsater & C. H. Dodson **Illustrator: M. López R.** **Editors: E. Hágsater & L. Sánchez S.**
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EPIDENDRUM BRYOPHILUM Hágsater & Dodson

Plate 423

EPIDENDRUM BRYOPHILUM Hágsater et Dodson, *sp, nov.*

Type: ECUADOR: Loja: W slopes of the E Andes above Loja, 2300-2600 m, ***F. C. Lehmann 8195.***
Holotype: AMES! (illustration voucher). Isotype: K!

Epidendro guacamayensi Hágsater & Dodson simile sed foliis angustioribus, columna arcuata, nectario lato et labelli lobis lateralibus columnam non superponentibus differens.

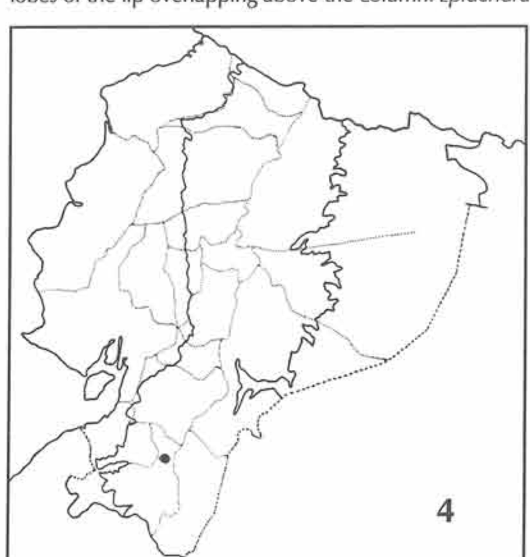
Hierba epífita, erecta, ramificada, 25-35 cm de alto. **Raíces** basales, delgadas, 0.5-1.1 mm de grosor. **Tallos** teretes, ramificados principalmente cerca del ápice cuando maduros, el principal hasta mas de 35 x 0.15-0.19 cm, las ramas a su vez ramificadas, 4-16 x 0.7-1.6 cm. **Hojas** en el tallo principal caedizas, distribuidas a todo lo largo del mismo, alternas, semejantes en cuanto a forma y tamaño a las de las ramas, en las ramificaciones agrupadas hacia el ápice; vaina tubular, estriada y verrugosa, hasta 3cm de largo; lámina linear lanceolada, ápice agudo, carinada dorsalmente, margen apical sinuoso, dentado, 23-70 x 1.6-3.0 mm. **Espata** ausente. **Inflorescencia** apical, de los tallos principales y de las ramificaciones, florece una sola vez durante largo tiempo, racemosa, arqueada nutante, 1-4 cm de largo; pedúnculo terete, delgado, desprovisto de brácteas, 1.3-1.7 cm de largo; raquis en zigzag, en espiral. **Brácteas florales** más cortas a mucho más largas que el ovario, gradualmente más pequeñas hacia el ápice del raquis, triangulares, acuminadas, 2-4 mm de largo. **Flores** hasta 16, sucesivas, una abierta a la vez, resupinadas; sin datos de color y fragancia. **Ovario** corto, terete, delgado, no inflado, no ornamentado, 4 mm de largo. **Sépalos** entreabiertos, libres, 3-nervados; el **dorsal** oblongo elíptico, obtuso, margen apical diminutamente dentado, 6.1 x 1.4 mm; los **laterales** ovados, agudos, con una quilla dorsal, margen entero, 6.0 x 2.6 mm. **Pétalos** entreabiertos, libres, lineares, obtusos, margen entero, 1-nervados, 5.8 x 0.5 mm. **Labelo** unido a la columna, entero, transversalmente elíptico al extenderse, apiculado, carnoso, abrazando a la columna en posición natural, 4.4 x 5.8 mm; ecalloso; glabro. **Columna** recta, gruesa, arqueada 90° en la mitad basal, 4 mm de largo. **Clinandrio** reducido, entero. **Antera** no vista. **Polinios** no vistos. **Rostelo** apical, hendido. **Lóbulos laterales del estigma** pequeños, de ¼ del largo de la cavidad estigmática. **Nectario** sin traspasar el perianto, amplio, pubescente a la altura de la cavidad estigmática, papiloso detrás de esta. **Cápsula** no vista.

Epiphytic, erect, branching **herb. Roots** basal, thin. **Stems** terete, branching generally near the apex when mature, the branches shorter. **Leaves** numerous throughout the main stem and few towards the apex of the branches; sheath tubular, striated and verrucose; blade linear-lanceolate, acute, apical margin sinuous-dentate, dorsally carinate. **Inflorescence** apical, flowering over a long time period, arching-nutant, peduncle filiform, rachis spirally zigzag. **Floral bracts** shorter to much longer than the ovary, triangular, acuminate. **Flowers** up to 16, one open at a time, resupinate. **Ovary** short, thin. **Sepals** partly spreading, free, 3-veined, **dorsal** oblong-elliptic, obtuse, apical margin minutely dentate; **laterals** ovate, acute, margin entire. **Petals** partly spreading, linear, obtuse, margin entire, 1-veined. **Lip** entire, transversely elliptic, apiculate, embracing the column without overlapping, fleshy, ecallose, glabrous. **Column** arching 90° in the basal half. **Clinandrium** reduced, entire. **Nectary** not surpassing the perianth, wide, pubescent in front of the stigmatic cavity, papillose behind.

OTHER SPECIMENS: None seen.

DISTRIBUTION AND ECOLOGY: Ecuador: On the western slopes near the summit of the eastern range of the Andes, above Loja. Flowering in October, most probably throughout the year.

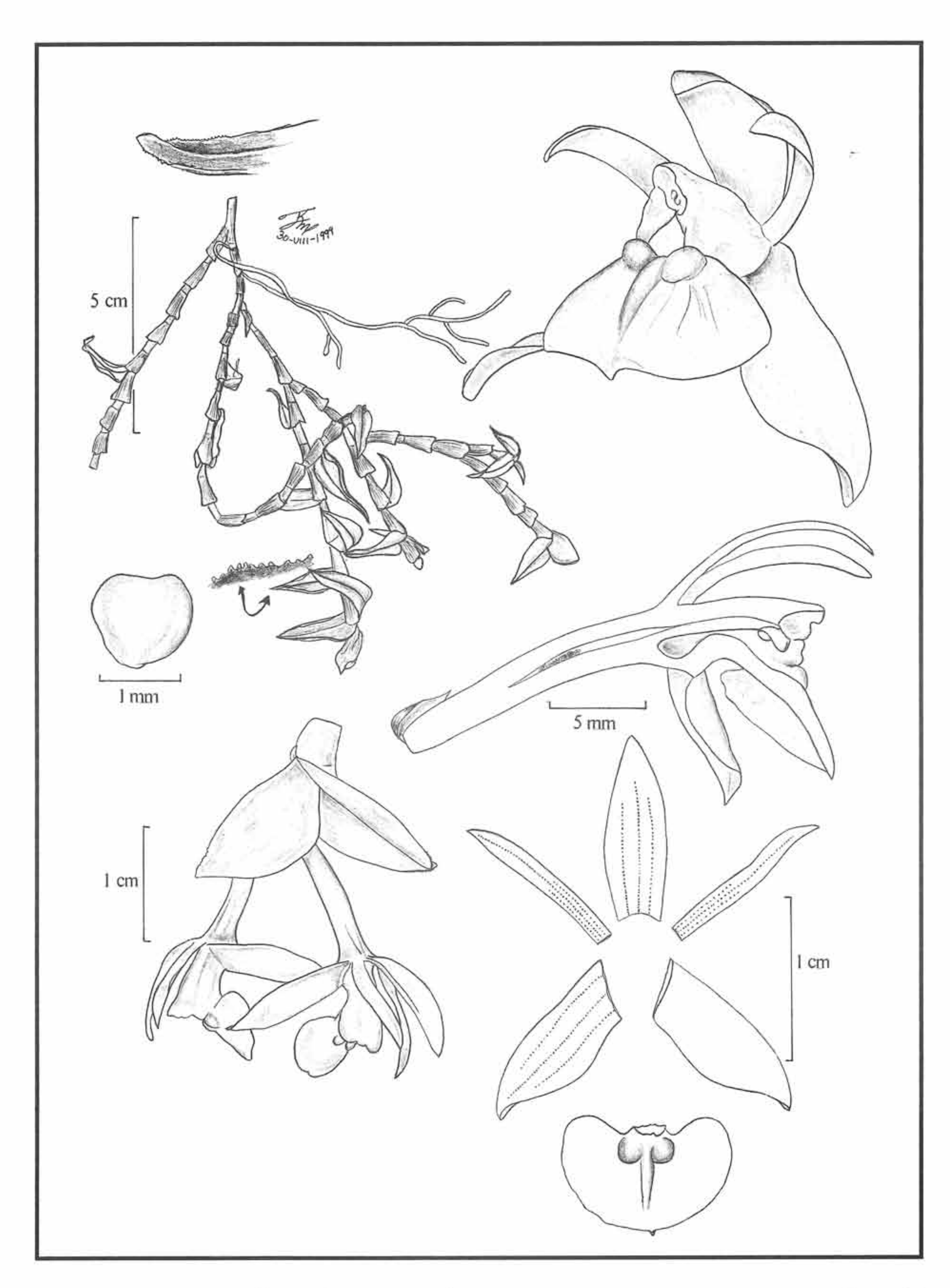
RECONGITION: *Epidendrum bryophilum* belongs to the elleanthoides group, guacamayense subgroup, characterized by branching stems, verrucose sheaths, long, narrow, grassy leaves, and a filiform peduncle; the species is recognized by the very narrow leaves, racemose inflorescence, the lateral lobes of the lip embracing the column without overlapping and the wide nectary. *Epidendrum guacamayense* Hágsater & Dodson has wider leaves (1.6-6.0 mm) the column deflexed at the base, a narrow nectary and the lateral lobes of the lip overlapping above the column. *Epidendrum elleanthoides* Schltr. has smaller flowers, slightly wider leaves, oblong-oblanceolate petals, the apical margin minutely dentate, and a pubescent lip that embraces the column without overlapping. *Epidendrum rubioi* Hágsater & Dodson has larger flowers (sepals 11 mm), shorter, wider leaves (to 35 x 7 mm), the lip laps over the column and is suborbicular and abruptly acute. *Epidendrum insignificans* Hágsater & Dodson has a sturdier habit overall, a nearly straight column which is partially exposed by the lip, linear-lanceolate petals, and a differently-shaped nectary; the inflorescence produces new racemes through the years, the peduncle being thin but not filiform. *Epidendrum chortophyllum* Schltr. has superficially similar habit and leaves, but the inflorescence with a short peduncle and simultaneous differently-shaped flowers distinguish it.



CONSERVATION STATUS: DD. Data deficient. The area was visited recently by the authors (1999), the western slope having been mostly disturbed; the eastern still maintains a patch of uncut elfin-forest which however has suffered from unusually dry years. The Podocarpus National Park extends south of the locality.

ETYMOLOGY: From the Greek βρυον, moss, and φυλος, beloved, in reference to the preference of this species for growing amongst mosses above the tree-line.

Authors: E. Hágsater & C. H. Dodson **Illustrator: R. Jiménez M.** **Editors: E. Hágsater & L. Sánchez S.**
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EPIDENDRUM CALACALIËNSE Hágsater & Dodson

Plate 424

EPIDENDRUM CALACALIËNSE Hágsater et Dodson, *sp. nov.*

Type: ECUADOR: Pichincha: Calacalí, Pululagua-La Iberia, 2500 m, 1 Jan 1984, ***Alex Hirtz 1505.*** Holotype: QCNE! (illustration voucher). Isotype: AMO!

Epidendro stanhopeano Kraenzl. similare sed floribus minoribus et luteis.

Hierba epífita, colgante, con rizomas rastreros, 11-14 cm de alto. **Raíces** basales, filiformes, 0.5-0.7 mm de grosor. **Tallos** sencillos, tipo caña, de cerca de la base de tallos anteriores, teretes, 6-10 x 0.1-0.15 cm. **Hojas** 4-12, distribuidas a lo largo del tallo, equidistantes; vainas tubulares, algo infundibuliformes, finamente estriadas, 5-7 x 0.2-0.3 cm; lámina lanceolada, ápice agudo, margen apical finamente ciliado, de color verde pálido con barras transversales moradas, 1.4-2.0 x 0.5-0.7 cm. **Espata** 1, aguda, conduplicada, oblicua, semiovada, margen apical diminutamente dentado, cubriendo aproximadamente la mitad de la longitud del ovario, 9-15 x 6-7 mm. **Inflorescencia** apical, corta, 2.5 cm de largo. **Brácteas florales** mucho más cortas que el ovario y ocultas dentro de la espata. **Flores** 2, simultáneas, resupinadas, de color amarillo sin manchas, sin datos de fragancia. **Ovario** terete, delgado, no inflado, 12-14 mm de largo. **Sépalos** libres, extendidos, angostamente ovados, subagudos, margen entero y extendido, ligeramente cóncavos; el **dorsal** 3-nervado, con un par de nervaduras secundarias, 11-13 x 3.7 mm; los **laterales** ligeramente oblícuos, 3-nervados, con una nervadura secundaria, 10-11 x 3.9-4.4 mm. **Pétalos** lineares, agudos, ocasionalmente el margen apical diminutamente eroso, 3-nervados, 10-12 x 1.2-1.7 mm. **Labelo** unido a la columna, entero, redondeado, reniforme, margen entero a diminutamente eroso, con un apículo pequeño en el seno apical, 6.5-7.9 x 10-11 mm; bicalloso, los callos pequeños, subglobosos; disco provisto de una carina intercallosa, desvaneciendose hacia la parte media apical. **Columna** ligeramente arqueada, 5.2 mm de largo. **Clinandrio** prominente, sobrepasando ligeramente el cuerpo de la columna, margen ondulado. **Antera** obovada, 4-locular. **Polinios** no vistos. **Rostelo** no visto. **Lóbulos laterales del estigma** de ¼ del largo del estigma. **Nectario** poco profundo, sin traspasar el perianto, dilatado a la altura del perianto, no ornamentado. **Cápsula** no vista.

Epiphytic, pendent **herb**. **Stems** produced from near the base of the previous stem, terete, completely covered by evanescent, imbricating, foliaceous sheaths. **Leaves** articulate, narrowly lanceolate, acute, apical margin finely ciliate, succulent, light green transversely barred with purple. **Spathe** semiovate, conduplicate, oblique, acute. **Inflorescence** apical, short, hanging. **Flowers** 2, simultaneous, yellow, without markings. **Ovary** not inflated. **Sepals** narrowly obovate to ovate, acute, 3-veined, with secondary lateral veins. **Petals** linear, acute, 3-veined. **Lip** reniform, margin entire to minutely erose; bicallose, the calli subglobose, with an intermediate keel. **Column** somewhat arched. **Clinandrium** prominent, somewhat surpassing the body of the column, margin undulate. **Anther** 4-celled. **Nectary** not surpassing the perianth and swollen at the perianth.

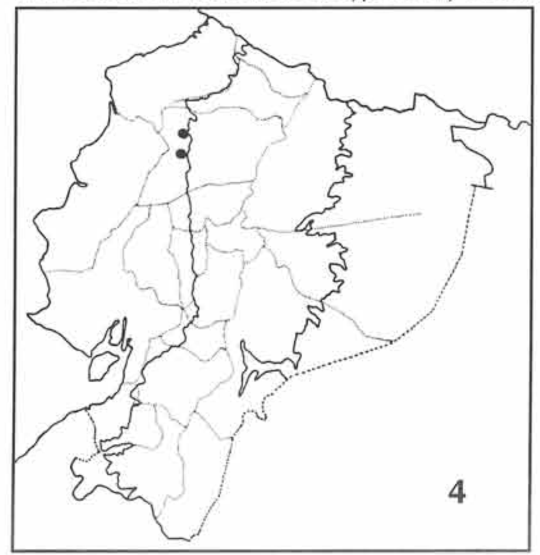
OTHER SPECIMENS: ECUADOR: Pichincha: Valle del Lloa, 14 km below Lloa, 2700 m, *L. Holm-Nielsen 18295.* AAU!

DISTRIBUTION AND ECOLOGY: Known only from northern Ecuador, on the upper western slopes of the Andes, 2500-2700 m de altitude. Montane forest. Flowering in January and June.

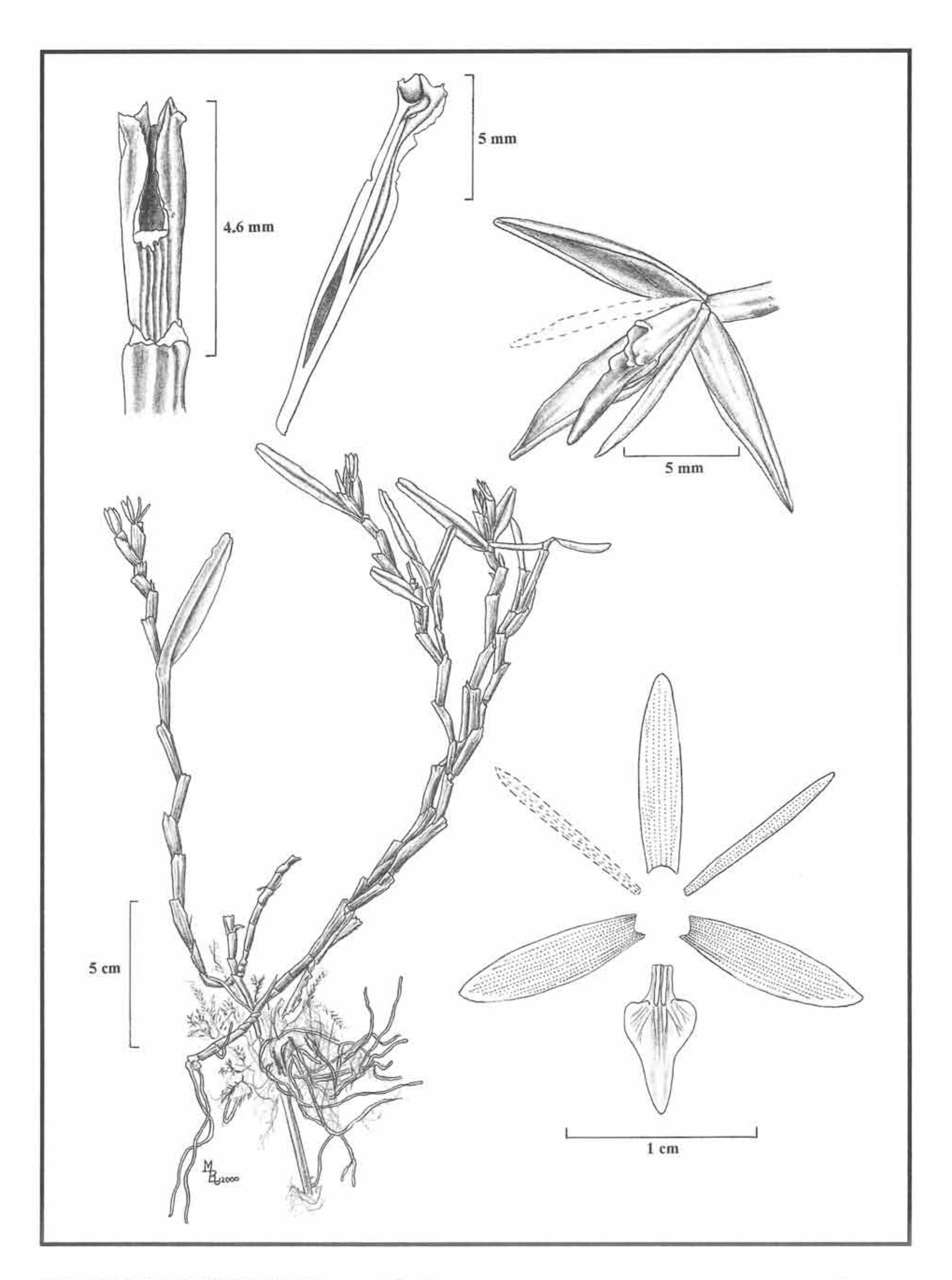
RECOGNITION: *Epidendrum calacaliënse* belongs to the megalospathum group and can be recognized by its bicallose, reniform lip, and a prominent clinandrium, the nectary does not penetrate the ovary. *Epidendrum posadarum* Hágsater is similar in size but the lip is cordiform with a single large callus and the ovary penetrates about half the ovary. *Epidendrum escobarianum* Garay has larger flowers, and a glossy, deep red acuminate lip. *Epidendrum stanhopeanum* Kränzlin has somewhat larger flowers, the sepals 13 x 5 mm, lip 10 x 15 mm and the green flowers suffused with pink, the lip intensely dotted with pink.

CONSERVATION STATUS: DD. Data deficient.

ETYMOLOGY: In reference to the type locality of Calacalí.



Authors: E. Hágsater & C. H. Dodson **Illustrator: R. Jiménez M.** **Editors: E. Hágsater & L. Sánchez S.**
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EPIDENDRUM CALAGRENSE Hágsater & Dodson

Plate 425

EPIENDRUM CALAGRENSE Hágsater *et* Dodson, *sp. nov*

Type: ECUADOR: Morona-Santiago:Road along Valle del Calagras between Limón and Gualaquiza, 1500 m, 17 May 1988, ***Alex Hirtz 3780.*** Holotype: MO! (illustration voucher).

Epidendro antillano Ackerman & Hágsater simile sed labello proportione longiore et angustiore bicalloso, petalis angustioribus trinervatis differt.

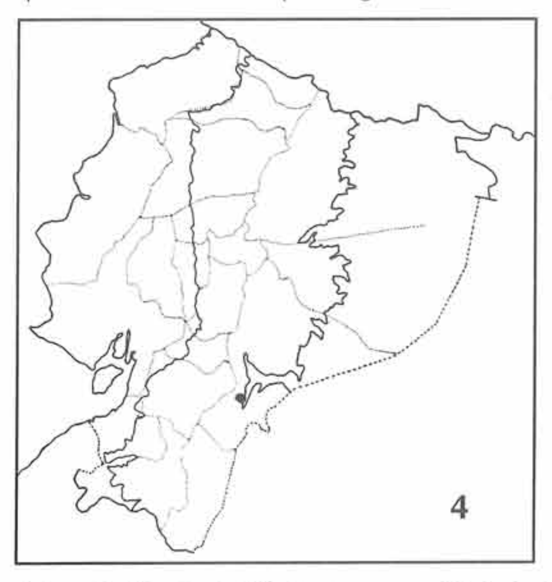
Hierba epífita, rastrera a erecta, de 17-24 cm de alto. **Raíces** a lo largo de la sección rastrera de los tallos basales, delgadas, 0.5 mm de grosor. **Tallos** tipo caña, teretes en la base, lateralmente comprimidos arriba, flexuosos, ramificados en la mitad superior, el principal 15-19 x 0.14-0.19 cm; las ramificaciones 3.5-6.5 cm de largo. **Hojas** 2-7, distribuidas lo largo del tallo, alternas; vaina tubular, lateralmente aplanada, estriada y finamente rugosa, 8-23 x 3-3.6 mm; lámina angostamente, oblonga, ápice desigualmente bilobado, margen entero, lisa; las del tallo principal 5.4 x 0.8 cm, las de las ramas 2-4.6 x 0.5-0.6 cm. **Espata** ausente. **Inflorescencia** apical, dística, recta, florece una sola vez, 2.3-2.5 cm de largo; pedúnculo corto, 3 mm de largo. **Brácteas florales** ligeramente más largas que el ovario, parcialmente imbricadas, conduplicadas, ovadas al extenderse, obtusas, 12-13 mm de largo. **Flores** 2, simultáneas, color verde, sin datos de fragancia. **Ovario** terete, liso, ligeramente inflado en el 1/3 apical, no ornamentado, 9-10 mm de largo. **Sépalos** entreabiertos, libres, angostamente elípticos, obtusos, glabros, margen entero, 9-nervados, las nervaduras ramificadas dando la apariencia de ser hasta 11 o 12 nervados, 9.5-10 x 2.3-2.8 mm **Pétalos** libres, lineares, obtusos, margen entero, 3-nervado, 9 x 0.76 mm. **Labelo** unido a la columna, cóncavo, entero, angostamente triangular, ligeramente angostado a la mitad, base truncada, agudo, margen entero, 6.1 x 3.8 mm; bicalloso, los callos alargados, laminares, de un poco más de 1/4 del largo de la lámina, desprovisto de carinas. **Columna** recta, 5 mm de largo. **Clinandrio** prominente, en forma de embudo, corto, subentero. **Antera** no vista. **Polinios** no vistos. **Rostelo** apical, hendido. **Lóbulos laterales del estigma** pequeños, de un tercio de largo de la cavidad estigmática. **Nectario** penetrando 1/3 del ovario, algo inflado, no ornamentado. **Cápsula** no vista.

Epiphytic, branching, straggling to erect **herb.** **Roots** basal, thin. **Stems** cane-like, terete below, laterally compressed above, flexuous, branched above. **Leaves** distributed throughout the stems; sheaths tubular, laterally compressed, striated and rugose; blade oblong, apex unequally bilobed, those of the main stems somewhat larger than those of the branches. **Inflorescence** apical, distichous, straight, with a short peduncle. **Floral bracts** slightly longer than the ovary, slightly imbricating, conduplicate, ovate, obtuse. **Ovary** terete, inflated ventrally along the apical 1/3. **Flowers** 2, simultaneous, green. **Sepals** partly spreading, free, narrowly elliptic, obtuse, glabrous, margin entire, 9-veined, the veins branching so as to appear 11-12-veined. **Petals** linear, obtuse, margin entire, 3-veined. **Lip** entire, narrowly triangular, slightly narrowed in the middle, base truncate, acute, bicallose, calli laminar, parallel, low, little longer than 1/4 of the lip. **Column** straight. **Clinandrium** funnel-shaped, prominent, short, subentire. **Nectary** penetrating one third of the ovary, somewhat inflated.

OTHER SPECIMENS: None seen.

DISTRIBUTION AND ECOLOGY: Known only from the type, in the Valley of the Río Calagras, at 1500 m altitude, on the Amazon side of the Andes in southern Ecuador. Flowering in May.

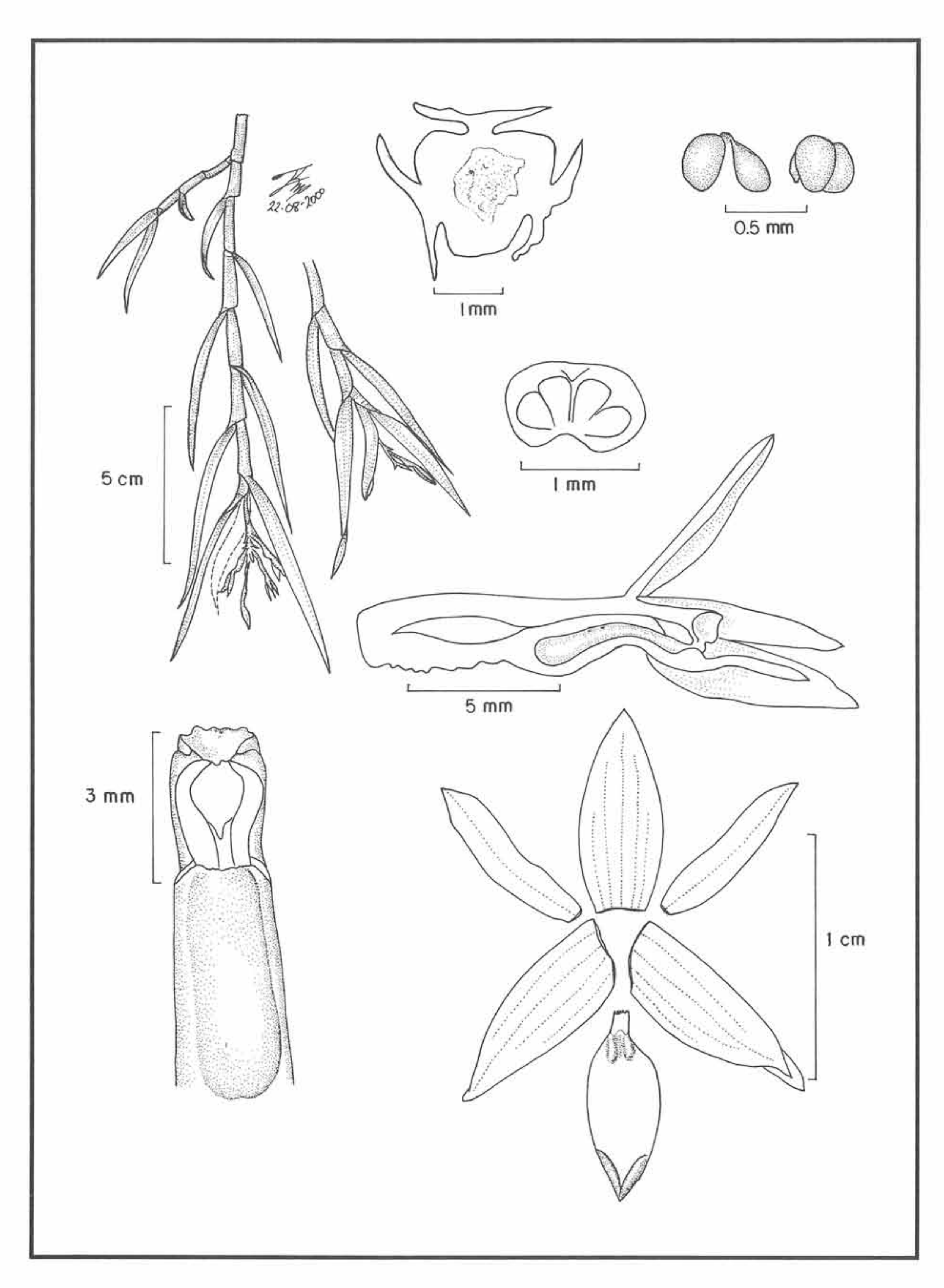
RECOGNITION: *Epidendrum calagrense* Hágsater & Dodson belongs to the ramosum group, modestiflorum subgroup, recognized by the branching habit, distichous 2-flowered inflorescence and short, narrow leaves (less than 5 x 0.8 cm), the elongate, triangular lip which is narrowed at the middle and the narrow, linear petals. *Epidendrum paradisicolum* Hágsater & García-Cruz has smaller flowers, the cordiform lip as wide as it is long, and the column short and thick, somewhat arched. *Epidendrum urichianum* Carnevali, Foldats & I. Ramírez has wider leaves, is 1-5 flowered and the lip cordiform-triangular with a truncate callus. In *Epidendrum antillanum* the lip is triangular, the callus terminates in 3 short keels and the petals are proportionately wider, 5-veined.



CONSERVATION STATUS: DD. Data deficient.

ETYMOLOGY: In reference to the Valley of Calagras, where the type was collected.

Authors: E. Hágsater & C. H. Dodson **Illustrator: M. López R.** **Editors: E. Hágsater & L. Sánchez S.**
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EPIDENDRUM CALYPTRATOIDES Hágsater & Dodson **Plate 426**

EPIDENDRUM CALYPTRATOIDES Hágsater et Dodson, *sp. nov.*

Type: ECUADOR: Napo: km 27 Pifo-Baeza-El Chaco, 2100-3000 m, col. 4 April 1984, pressed 20 July 1984, ***E. Hágsater 7733***. Holotype: QCNE! (illustration voucher). Isotypes: AMO! COL! MO! SEL!

Epidendro calyptrato F. Lehm. & Kraenzl. simile sed foliis longioribus, ovario perpendiculari rachim respectu, breviore ventraliter inflato et vesiculam formanti, clinandrio brevi eroso differens.

Hierba epífita, subcespitosa, colgante, de 12-25 cm de alto. **Raíces** basales, delgadas, carnosas, blancas, de ca 0.4-0.6 mm de grosor. **Tallos** delgados, tipo caña, lateralmente comprimidos, flexuosos, formados por 6-9 entrenudos, originándose del 2° ó 7° entrenudo del tallo anterior, 5-18 x 0.3-0.8 cm, las 1-2 vainas basales no foliosas. **Hojas** 5-11, desiguales, distribuidas a casi toda la longitud del tallo; vainas foliares lisas y verdes cuando frescas, estriadas y pardas cuando secas; láminas carnosas, linear lanceoladas, oblicuas, ápice agudo, verdes, 14:1; 1.8-7.5 [9] x 0.3-0.6 [0.7] cm. **Espata** solitaria, conduplicada, angostamente semi lanceolada, acuminada; 2.0-3.7 [4.6] x 0.4-0.6 cm, la espata se produce a unos 5-6 mm de la última hoja, donde queda visible un segmento de tallo de 1.5-2.2 mm de ancho. **Inflorescencia** apical, racemosa, del crecimiento maduro, florece una sola vez, corta; pedúnculo de 14-20 mm de largo, totalmente cubierto por la espata. **Brácteas florales** angostamente triangulares, acuminadas, mucho más cortas que el ovario, 1-4 mm de largo. **Ovario** prominente, terete, 0.9-1.1 cm de largo, ornamentado por 3 costillas anchamente bialadas, inflado en la mitad apical, formando una vesícula. **Flores** 4-9, simultáneas, verdes teñidas de rojizo, antera blanca. **Sépalos** entreabiertos, ovados, agudos, margen extendido, el **dorsal** 5-nervado, 6-7.5 x 3-3.4 mm; los **laterales** oblicuos, aristados, 4-nervados, 6.5-8.2 x 3 mm. **Pétalos** entreabiertos, oblongos, agudos, 1-nervados, 6-7.4 x 1.4-1.5 mm. **Labelo** entero, elíptico, base cuneada, ápice agudo 6-6.7 x 2.9-3 mm; bicalloso, callos paralelos. **Columna** corta, gruesa, 2.6 mm de largo incluyendo el clinandrio. **Clinandrio** sobrepasa ligeramente el cuerpo de la columna, eroso. **Rostelo** apical, hendido. **Lóbulos laterales del estigma** de 1/2 del largo de la cavidad. **Nectario** penetrando más de 1/3 del pedicelo, ensanchado dentro del ovario formando una vesícula, liso interiormente. **Antera** reniforme, 4 locular. **Polinios** 4, obovoides, lateralmente comprimidos, subiguales; caudículas suaves y granulosas, más largas que los polinios; viscidio semilíquido transparente. **Cápsula** elipsoide, pedúnculo delgado, 2 mm de largo, cuerpo 6-9 x 7-8 mm, cuello apical ca. 1.5 mm de largo. [medidas entre paréntesis y cápsula corresponden a *Macbride 4179*.]

Hanging, subcaespitose **herb**. **Roots** few, basal, thin. **Stems** laterally flattened, thin and fleshy, the new stem arising from the basal to the middle internodes of the previous stem. **Leaves** 5-11, unequal, distributed throughout the stem; sheaths tubular, smooth; blades articulate, linear-lanceolate, oblique, apex acute, green, 14:1. **Spathe** solitary, conduplicate, narrowly semi-lanceolate, acute. **Inflorescence** apical, from the mature stem, flowering only once, racemose. **Floral bracts** narrowly triangular, acuminate, much shorter than the ovary. **Ovary** inflated ventrally beyond the middle to form an obvious vesicle, ornamented at the ribs by 3 pairs of flat wings, thus 6-winged. **Flowers** 4-9, pendant, simultaneous, green tinged with reddish, anther white. **Sepals** partly spreading, ovate, acute, margins extended, 3-veined, **laterals** oblique. **Petals** partly spreading, narrowly oblong, acute, 1-veined. **Lip** entire, elliptic, base cuneate, apex acute; bicallose, the calli parallel. **Column** short, thick. **Clinandrium** somewhat surpassing the body of the column, margin erose. **Rostellum** apical, slit. **Nectary** deep, penetrating more than one third of the pedicel, widened within, unornamented. **Anther** reniform, 4-celled. **Pollinia** 4, obovoid, laterally compressed, subequal; caudicles smooth and granulose, shorter than the pollinia; viscidium semi-liquid, transparent.

OTHER SPECIMENS SEEN: COLOMBIA: Nariño: km 11 from Incano on west margin of Laguna Cocha, 2750 m, *Dodson et al. 18105*, AMO! **ECUADOR: Zamora-Chinchipe:** Río Yacuambi, *D'Alessandro et al. 840*, QCA! **PERU: Huanuco**: Huacachi, estación near Muña, 6500 ft, 20 May-1 June, 1923, *J. Francis MacBride 4179*, AMES! F!

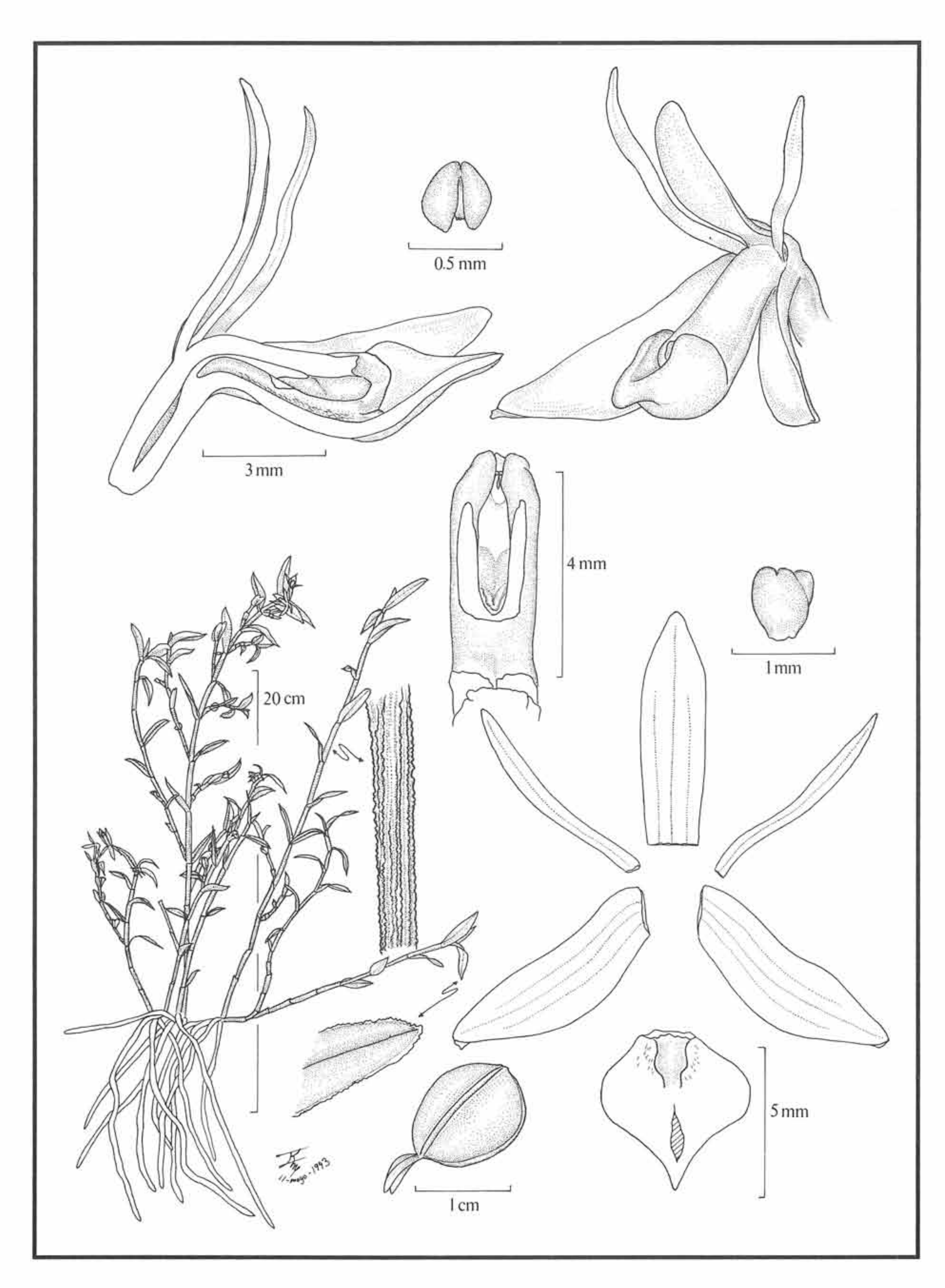


RECOGNITION: *Epidendrum calyptratoides* is recognized by the hanging plants, oblique linear-lanceolate leaves 14:1(length:width), semi-lanceolate spathe with 4-9-flowered raceme, ovary inflated forming a vesicle at the apical 1/3, and 6-winged, the floral segments partly spreading; the lip elliptic, bicallose, and the oblong petals, the clinandrium somewhat surpassing the body of the column. *Epidendrum calyptratum,* though very similar, has spreading sepals and petals, linear petals, and the ovary longer and thin, not inflated, the clinandrium widely cucullate, entire.

DISTRIBUTION AND ECOLOGY: Colombia, Ecuador and Peru on the Amazon side of the eastern cordillera of the Andes, at 2500-2750 m altitude. Flowering from April to July.

ETYMOLOGY: From the Greek καλυπτρα, veil, and the suffix *-οειδης* similar; in reference to the similarity between this species and *E. calyptratum*.

Authors: E. Hágsater & C. H. Dodson **Illustrator: R. Jiménez M.** **Editors: E. Hágsater & L. Sánchez S.**
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EPIDENDRUM CHRYSANTHUM Hágsater & Dodson

Plate 427

EPIDENDRUM CHRYSANTHUM Hágsater et Dodson, *sp. nov.*

Type: ECUADOR: Carchi: km 39 Tulcán Maldonado, pasando el puerto, 0°47'39"N, 77°56'55"W, 3640 m, 29 abril 1993, ***E. Hágsater C. H. Dodson, N. H. Williams, M. Whitten, A. Embree, F.L. Stevenson & R. M. Chandler 11251.*** Holotype: QCNE! Isotype: AMO! (illustration voucher).

Epidendro rhombochilo L. O. Williams similare sed foliis brevioribus, floribus extus cupreo-luteis, columna proportione longiore labellum respectu recedens.

Hierba terrestre, cespitosa, 10-30 cm de alto. **Raíces** basales, carnosas, 1.5-2 mm de grosor. **Tallos** teretes, de crecimiento simpodial y rastrero, muy ramificados cerca en toda su longitud, los principales hasta 30 x 0.16-0.20 cm, las ramificaciones más cortas, 2-8.5 x 0.12-0.18 cm. **Hojas** distribuidas todo a lo largo de los tallos; vainas tubulares, estriadas y verrugosas, amoratadas, con una ornamentación en el borde opuesto a la lámina, hasta 2.5 cm de largo; láminas angostamente oblongas, ápice agudo, margen irregularmente eroso denticulado, subcoriáceas, de color verde oscuro, 7-24 x 4.2-5.8 mm, las de las ramificaciones progresivamente más grandes, sin llegar al tamaño de las de los principales. **Espata** ausente. **Inflorescencia** apical, de los tallos principales y de las ramificaciones, racemosa, nutante, pedúnculo corto, terete, raquis verrugoso. **Brácteas florales** triangulares a lanceoladas, hasta 7 mm de largo, agudas a largamente acuminadas, dorsalmente verrugosas. **Ovario** terete, corto, grueso, no inflado, 3.5 mm de largo. **Flores** 2-4, más o menos simultáneas, de color amarillo, los sépalos y ovario bronceados por fuera, sépalos, pétalos y labelo verdosos hacia el ápice. **Sépalos** entreabiertos, oblongos, obtuso redondeados, 3-nervados, carnosos, obtusos, cóncavos, 7.5 x 2.0-2.1 mm; el dorsal angostamente elíptico ligulado; los laterales angostamente elípticos, oblícuos. **Pétalos** entreabiertos, subparalelos al sépalo dorsal, lineares, 1-nervados, 6.7-7.2 x 0.75. **Labelo** unido a la columna, rómbico al extenderse, los lados redondeados, el ápice triangular agudo, carnoso, pubescente en la base del callo, abrazando la columna en posición natural, 5.0 x 4.5-5.0 mm; callo formado por dos quillas largas y aplanadas, divergentes en la base, convergentes hacia el ápice. **Columna** ligeramente arqueada hacia arriba, terminada en dos lobos redondeados, 4.5-4.8 mm de largo. **Clinandrio** obsoleto, entero. **Antera** ovoide, 2-locular. **Polinios** 2, obovoides, caudículas granulosas, un poco más largas que los polinios, viscidio semilíquido. **Rostelo** apical, hendido. **Lóbulos laterales del estigma** cortos, cerca de 1/4 del largo de la cavidad estigmática. **Nectario** poco profundo, sin traspasar el perianto, prominentemente pubescente frente a la cavidad estigmática, pubescencia dirigida hacia el fondo del nectario. **Cápsula** subglobosa, sésil, sin cuello apical 1.7 x 1.3 cm, verde brillante, perianto persistente de color verde sucio.

Terrestrial, caespitose, branching **herbs**. **Roots** fleshy, from the base of the stems. **Stems** terete, sympodial, repent habit, branching throughout. **Leaves** distributed throughout, sheaths tubular, striated and verrucose, purple-tinged, blades narrowly oblong, acute, margin irregular erose-denticulate, subcoriaceous. **Inflorescence** apical, from the main stems and the branches, racemose, nutant, without spathes. **Bracts** triangular to lanceolate, longer than the ovary. **Flowers** 2-4, more or less simultaneous, yellow, the back side of the sepals and ovary bronze, sepals, petals and lip green towards the apex. **Ovary** terete, not inflated. **Sepals** oblong, obtuse-rounded, 3-veined, fleshy. **Petals** linear, 1-veined. **Lip** united to the column, rhomboid, sides rounded, apex triangular-acute, with two keels and pubescent at base, embracing the column in natural position. **Column** slightly arching upwards, ending in a pair of rounded lobes. **Clinandrium** obsolete. **Anther** ovoid, 2-celled. **Pollinia** 2, obliquely obovoid, caudicles soft and granular, slightly longer than the pollinia; viscidium semiliquid. **Nectary** shallow, not surpassing the perianth, pubescent in front of the stigmatic cavity. **Rostellum** apical, slit. **Capsule** subglobose, sessile, without apical neck, perianth persistent.

OTHER SPECIMENS: COLOMBIA: Cauca: Cabeceras del Río Palo, quebrada del Río López: Quebrada del Duende, 3400-3450 m, *J. Cuatrecasas 18950*, AMES, NY!, US! **ECUADOR: Carchi:** km 39 Tulcán-Maldonado, pasando el puerto,3640 m, *Hágsater et al. 11253*, AMO! MO! El Angel-Tulcán, 3620 m, *S. Halloy B80*, QCA! Tufiño, 3700 m, *W. Palacios 11884*, QCNE!

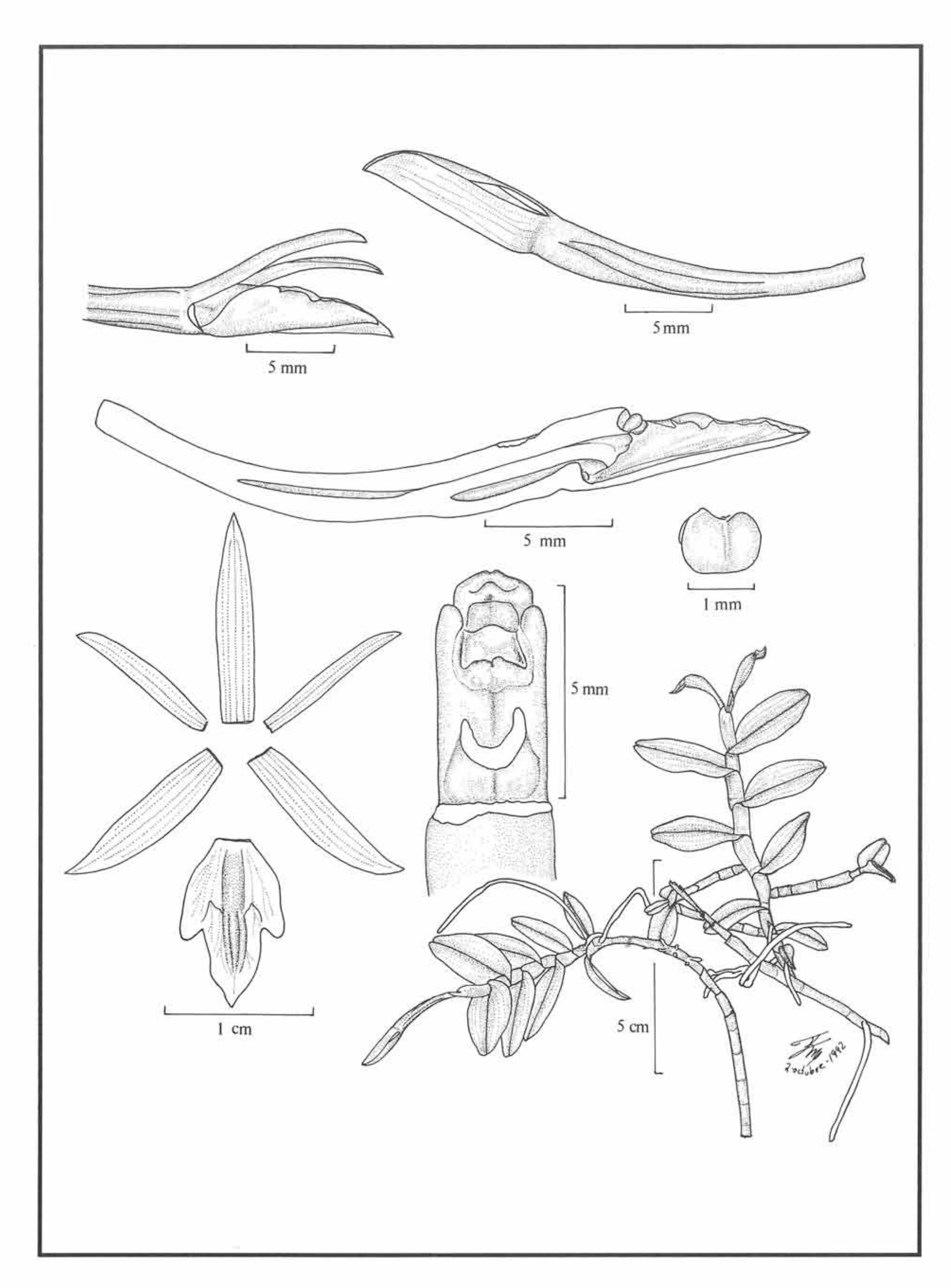


DISTRIBUTION AND ECOLOGY: Northwestern Ecuador and southwestern Colombia, growing on roadside banks at 3600 m altitude with *Epidendrum rhodanthum* and *Brachionidium sp.* on the western Andes in páramo with *Espeletia*. Flowering April-May.

RECOGNITION: *Epidendrum chrysanthum* belongs to the elleanthoides group, rhombochilum subgroup and is recognized by its small, branching, caespitose plants with small, fleshy, bronzy-yellow-green colored flowers produced simultaneously, the rhomboid lip enveloping the column, the sepals 7.5 mm long; it only has 2 pollinia, an infrequent character in the genus. *Epidendrum rhodanthum* Hágsater & Dodson, which is sympatric has successive pink flowers, the lip transversely elliptic, apiculate, the sepals 8.5 mm long, and 4 pollinia. *Epidendrum rhombochilum* has longer, narrower leaves, and the column longer in relation to the lip, the sepals 8 mm long, this species is found on the eastern cordillera of the Andes.

CONSERVATION STATUS: DD. Data deficient.
ETYMOLOGY: From the Greek χρυσο- golden yellow, and άνθος, flower, in reference to the golden yellow flowers.

Authors: E. Hágsater & C. H. Dodson **Illustrator: R. Jiménez M.** **Editors: E. Hágsater & L. Sánchez S.**
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EPIDENDRUM CLEISTOGASTRIUM Hágsater & Dodson

Plate 428

EPIDENDRUM CLEISTOGASTRIUM Hágsater et Dodson, *sp. nov.*

Type: ECUADOR: Napo: Desviación Baeza Lago Agrio, 2 km antes de Baeza, bosque muy húmedo de montaña a lo largo del Río Papallacta, 1900 m, col. 4 Dec. 1986, pressed 20 Aug. 1998, ***E. Hágsater & C. H. Dodson 9199.*** Holotype: QCNE! Isotypes: AMO! SEL! Clonotype: 2 Oct. 1992, AMO! (spirit, illustration voucher). Clonotype: (division of the type number plant) 12 Mar. 1999, *Hágsater et al. 12109* COL!

Epidendro marsupiali Lehmann & Kraenzlin simile sed floribus luteis cleistogamis vel partialiter apertis, labelli base cuneata, suis lobulis basalibus porrectis non retrorsis et columnam in positione naturali involventibus divergens.

Hierba epífita, reptante, ca. 5 cm de alto. **Raíces** basales, delgadas, carnosas, blancas, de 1 mm de grosor. **Tallos** sencillos, tipo caña, algo lateralmente aplanados, rectos, ligeramente engrosados hacia la parte media, carnosos, formados de 4-8 entrenudos, el tallo nuevo originándose de la parte media del tallo anterior, 3-6 x 0.2-0.4 cm. **Hojas** 4-8, desiguales, distribuidas a todo lo largo del tallo; vaina estriada y verde; lámina carnosa, con la parte abaxial mirando al substrato, elíptica ovada, bilobada, sulcada, margen entero, verde, 1.0-2.6 x 0.6-1.1 cm. **Espata** 1, conduplicada, angostamente obovado, obtusa; 0.8-1.1 x 0.2-0.5 cm. **Inflorescencia** apical, del crecimiento maduro, florece una sola vez, racemosa, corta; pedúnculo oculto dentro de la espata. **Brácteas florales** mucho más cortas que el ovario, angostamente triangulares, acuminadas, de 3 x 1 mm. **Ovario** ligeramente inflado ventralmente en el tercio apical, terete, no ornamentado, 17 x 2.5 mm. **Flores** 1-2, no resupinadas, simultáneas, amarillas, cleistógamas a parcialmente abiertas. **Sépalos** cerrados, oblongo lanceolados, agudos, 5-nervados, 13 x 2.5 mm. **Pétalos** cerrados, angostamente oblongos, agudos, 3-nervados, 12-11 x 1.5 mm. **Labelo** unido a la columna, trilobado, base cuneada, 12 x 7 mm; disco cóncavo, termina en una serie de nervaduras engrosadas, ecalloso con 3 quillas longitudinales que terminan a la mitad del lóbulo medio; lóbulos laterales semiobovados, ocupando la mitad del largo del labelo, abrazando a la columna; lóbulo medio triangular, agudo. **Columna** corta, gruesa, 3.7 mm de largo. **Clinandrio** corto, entero. **Antera** reniforme, 4 locular. **Polinios** no vistos. **Rostelo** apical, no se pudo observar. **Lóbulos laterales del estigma** prominentes, de la mitad de largo de éste. **Nectario** penetrando 1/4 del ovario, estrangulado hacia la base de la columna. **Cápsula** no vista.

Epiphytic, repent **herb. Roots** basal, thin. **Stems** somewhat flattened, thickened, fleshy, the new stem arising from the middle of the previous stem. **Leaves** 4-8, unequal, distributed throughout the stem, green; sheath striated; blade articulate, elliptic-ovate, apex bilobed. **Spathe** conduplicate, narrowly obovate, obtuse. **Inflorescence** apical, from mature stem, flowering only once, racemose. **Floral bracts** much shorter than the ovary, narrowly triangular, acuminate. **Ovary** somewhat inflated ventrally at the apical 1/4, unornamented. **Flowers** 1-2, non-resupinate, simultaneous, yellow, cleistogamous to partly open. **Sepals** narrowly oblong-lanceolate, acute, 5-veined. **Petals** narrowly oblong, acute, 3-veined. **Lip** three-lobed, base cuneate; disc concave, the cavity ending by thickened veins, ecallose, with 3 parallel keels; lateral lobes semiobovate, occupying about half the length of the lip; midlobe triangular, acute. **Column** short, thick. **Clinandrium** short, margin entire. **Nectary** penetrating one fourth of the ovary, narrowed at the base of the column, unornamented.

OTHER SPECIMENS: COLOMBIA: Nariño: without precise locality, collected by José Luis Aguirre, cultivated at Colomborquídeas, *Hágsater 11537* AMO!

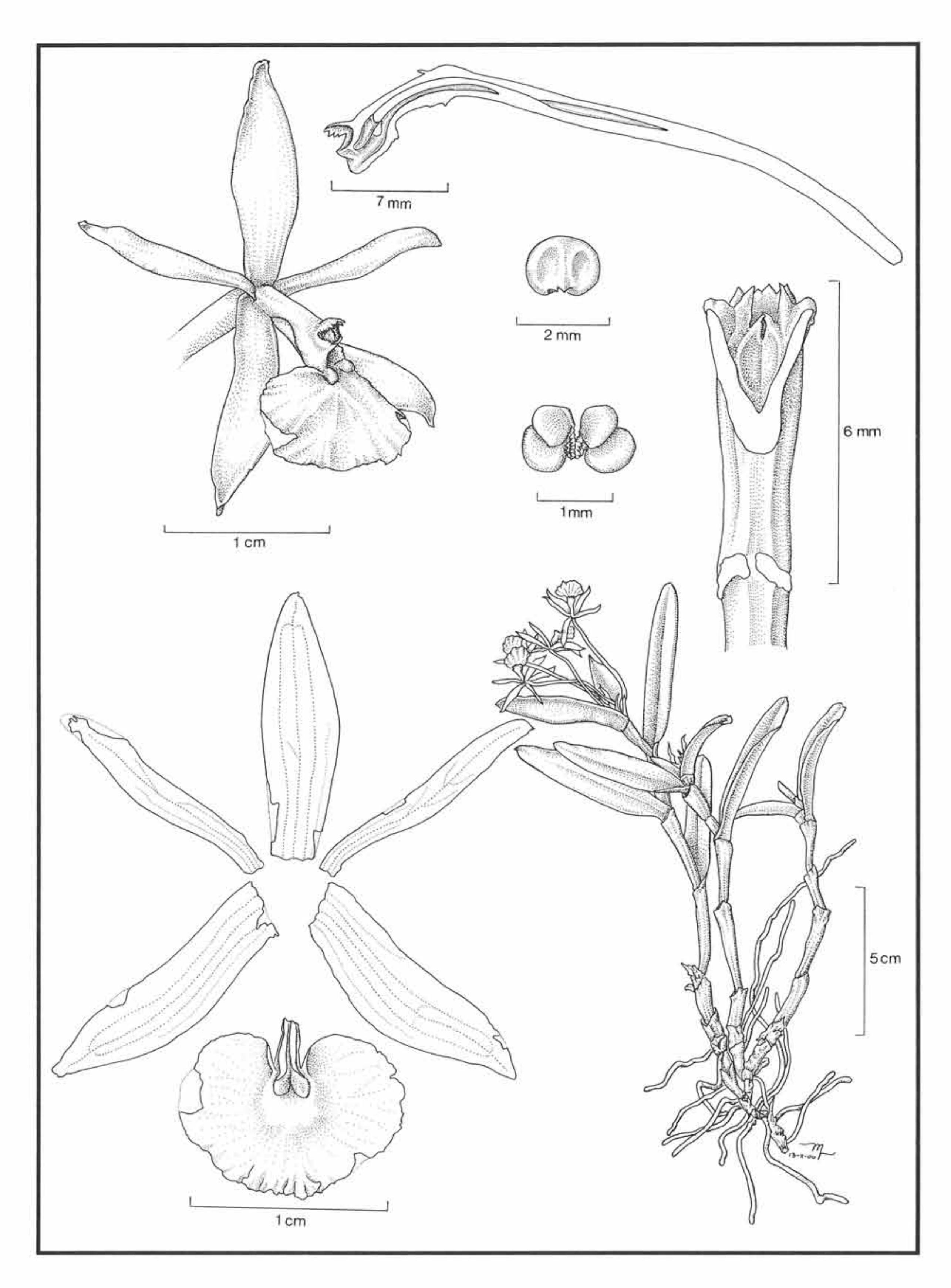
DISTRIBUTION AND ECOLOGY: Ecuador and southern Colombia, known only from the Amazon side of the Andes at 1900 m altitude. Flowering in cultivation in Mexico in March, August and October.



RECOGNITION: *Epidendrum cleistogastrium* belongs to the megagastrium group and is identified by the yellow, cleistogamous flowers, and the shape of the lip, which is three-lobed and cuneate, with the lateral lobes semiobovate. *Epidendrum amplexigastrium* Hágsater & Dodson is very similar but the flowers are copper-colored, and wide open, the sepals being 7-veined. *Epidendrum marsupiale* has a lip similar in both shape and size but the lateral lobes are separated by deep sinuses and spreading in front of the column instead of embracing it and overlapping. *Epidendrum megagastrium* has a triangular, cordate, entire lip and the sides do not cover the apex of the column.

ETYMOLOGY: From the Greek κλειστος closed, and γαστηρ belly, in reference to the cleistogamous (self-fertilizing, unopen flowers) and the group of species with excavated disc of the lip, though in this case not papillate, which is quite unusual in the genus *Epidendrum*.

Authors: E. Hágsater & C. H. Dodson **Illustrator: R. Jiménez M.** **Editors: E. Hágsater & L. Sánchez S.**
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EPIDENDRUM CRENULIDIFFORME L. Sánchez & Hágsater **Plate 429**

EPIDENDRUM CRENULIDIFFORME L. Sánchez et Hágsater, *sp. nov.*

Type: DOMINICAN REPUBLIC: Prope Constanza, 1200 m, Jun. 1910, ***H. von Tuerckheim 3379.***
Holotype: G! (illustration voucher). Isotypes: AMES! M! NY!

Epidendro floridensi Hágsater similare sed habitu minore, floribus 3 vel 4 albo-viridulis, petalis anguste elliptico-oblongis, labello reniformi ad marginem crenulato recedit.

Hierba epífita, cespitosa, 17 cm de alto incluyendo la inflorescencia. **Raíces** basales, carnosas, 0.5-1 mm de grosor. **Tallos** sencillos, tipo caña, teretes, 9.5-12.5 x 0.2-0.35 cm. **Hojas** 5-6, equidistantes a lo largo del tallo, erectas; vaina tubular, lisa, 1.5-2.5 cm de largo; lámina angostamente lanceolada, ápice asimétricamente bilobado, margen entero, coriácea, sin carina dorsal, color verde, 2.5-6.0 x 0.8-1 cm. **Inflorescencia** apical en el tallo maduro, florece una sola vez, subumbelada, sésil. **Brácteas florales** más cortas que el ovario, triangulares, acuminadas, 6-11 x 1.5-1.7 mm. **Flores** 3-4, simultáneas, resupinadas, color blanco verdoso, sin datos de fragancia. **Ovario** no inflado, terete, no ornamentado, 30-40 x 0.7-1.0 mm. **Sépalos** extendidos, libres, glabros, subcoriáceos, elípticos, agudos, margen entero, ligeramente revolutos, 13-13.5 x 3-3.5 mm; el dorsal 3-nervado, los laterales ligeramente oblicuos, 5-nervados. **Pétalos** entreabiertos, membranáceos, angostamente elíptico oblongos, obtusos, margen entero, extendido, 3-nervados, 13-13.5 x 1.2-1.5 mm. **Labelo** unido a la columna, entero, reniforme, base cordada, margen crenulado, 8-11 x 13-16 mm; bicalloso, los callos subglobosos. **Columna** ligeramente arqueada, gruesa, 6-7.5 x 1.0-1.2 mm. **Clinandrio** prominente, margen dentado eroso. **Antera** subreniforme, no ornamentada, 4-locular. **Polinios** 4, subglobosos, lateralmente comprimidos, subiguales; caudículas suaves y granulosas, ligeramente más cortas que los polinios. **Rostelo** apical, hendido. **Lóbulos laterales del estigma** cortos, de un tercio de la cavidad estigmática. **Nectario** penetrando 1/5 del ovario, no ornamentado. **Cápsula** no vista.

Epiphytic, caespitose **herb**. **Stems** terete. **Leaves** 5-6, erect, narrowly lanceolate, bilobed, margin entire, coriaceous. **Inflorescence** apical, subumbellate, sesile. **Floral bracts** smaller than the ovary, triangular, acuminate. **Flowers** 3-4, simultaneous, resupinate, greenish-white. **Ovary** not inflated, terete, unornamented. **Sepals** spreading, free, glabrous, subcoriaceous, elliptic, acute, margin entire, slightly revolute; the dorsal 3-veined; the laterals slightly oblique, 5-veined. **Petals** spreading, membranaceous, narrowly elliptic-oblong, obtuse, margin entire. **Lip** united to the column, entire, reniform, base cordate, margin crenulate; bicallose, the calli subglobose. **Column** slightly arcuate. **Clinandrium** prominent, dentate-erose. **Anther** subreniform, unornamented, 4-locular. **Pollinia** 4, subglobose, laterally compressed. **Rostellum** apical, slit. **Nectary** penetrating one fifth of the ovary, unornamented.

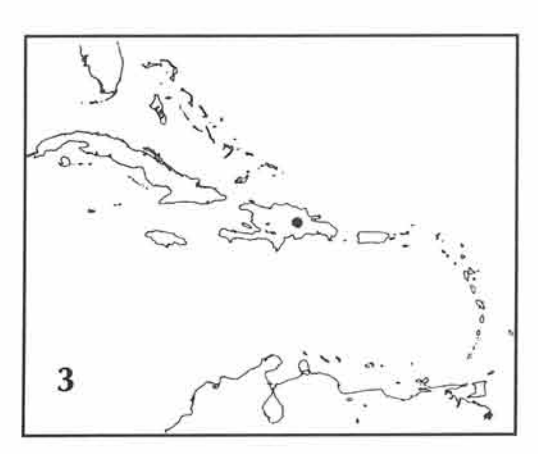
OTHER SPECIMENS: None seen.

DISTRIBUTION AND ECOLOGY: Known only from Dominican Republic in the Cordillera Central. Epiphyte, 1200 m altitude. Flowering in June.

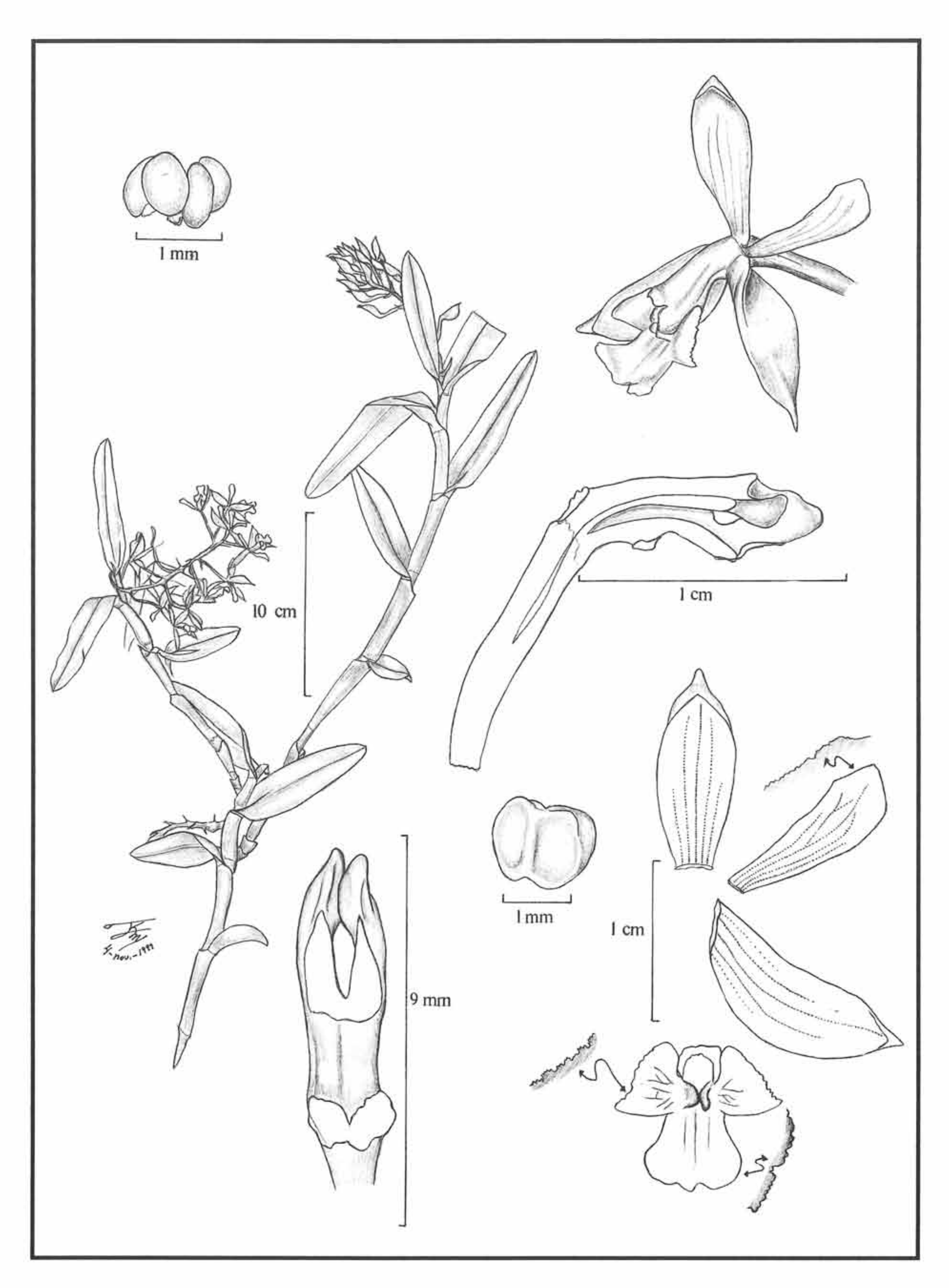
RECOGNITION: *Epidendrum crenulidifforme* belongs to the difforme group, and can be recognized by the terete stems, 3-4 flowers, narrowly elliptic-oblong petals, entire lip with crenulate margin, prominent clinandrium. It is similar to *E. floridense* Hágsater from Florida and widespread in Cuba and Haiti, which has larger plants with many flowers, oblanceolate petals, cordate lip with the margin entire. Other species from the Caribbean Islands include *Epidendrum umbellatum* Sw., widespread from south-eastern Cuba to Trinidad and Tobago has large, vigorous plants, laterally compressed stems, narrowly obovate petals and three-lobed lip. *Epidendrum orientale* Hágsater & M.A. Díaz from south-eastern Cuba and Jamaica has short compact plants, bilobed lip with the lobes subovate and sometimes notched at the margin, giving the impression of a 4-lobed lip, and wide, divergent calli. *Epidendrum boricuarum* Hágsater & L. Sánchez from Cordillera Central of Puerto Rico and the Dominican Republic, has larger plants, laterally compressed stems, three-lobed, emarginate lip with small drops of nectar, and an arcuate column. *Epidendrum difforme* Jacq., widespread in the Lesser Antilles, has strongly laterally compressed, ancipitose stems, and a 3-lobed lip.

CONSERVATION STATUS: DD. Data deficient.

ETYMOLOGY: The name *crenulidifforme* refers to the latin "*crenulatus*" in reference to the crenulate lip and the difforme group to which it belongs.



Authors: L. Sánchez S. & E. Hágsater **Illustrator: M. López R.** **Editors: E. Hágsater & L. Sánchez S.**
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EPIDENDRUM CUYUJENSE Hágsater & Dodson

Plate 430

EPIDENDRUM CUYUJENSE Hágsater et Dodson *sp. nov.*

Type: ECUADOR: Napo: Between Cuyuja and Papallacta, 10 km E of Papallacta, 2800-2900 m, 5 June 1973, ***L. Holm-Nielsen, S. Jeppesen, B. Løjtnant & B. Øllgaard 6852.*** Holotype: QCNE! Isotypes: AAU! (illustration voucher), AMES! MO! SEL! S (x2)!

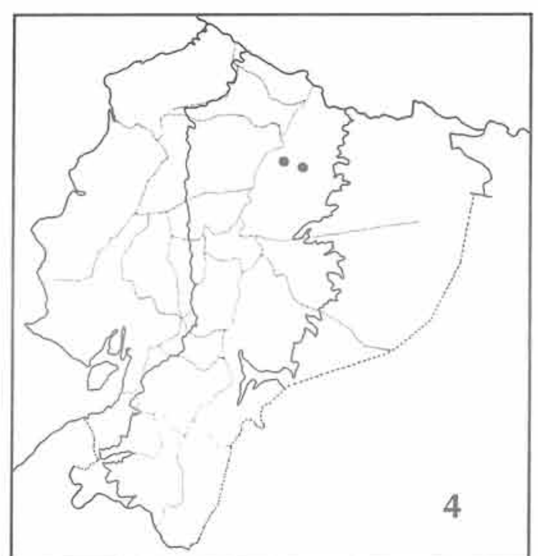
Epidendro suaveolenti Ames simile sed petalis angustioribus, labelli lobulis lateralibus triangulari-dolabriformibus in angulum acutum terminantibus, columna breviore differt.

Hierba terrestre, erecta, ramificada arriba, de hasta 150 cm de alto. **Raíces** basales, gruesas. **Tallos** delgados, tipo caña, erectos, teretes, rectos, ligeramente ensanchados hacia la parte media, tallos secundarios originados de los nodos apicales del tallo principal, de 13-27 cm de largo. **Hojas** distribuidas en los tres cuartos apicales de los tallos, articuladas; vainas tubulares, estriadas y algo rugosas cuando secas; lámina subcoriácea, de angostamente elíptica a lanceolada, ápice desigualmente bilobado, carinada dorsalmente, progresivamente más grandes, de 5-10 x 1.3-1.8 cm. **Inflorescencia** apical, de los tallos primarios y secundarios maduros, florece una sola vez, nutante, racemosa, de 6-8 cm de largo; pedúnculo corto de 1.5-2 cm de largo, con una bráctea cerca de la base, de 1 cm de largo, angostamente triangular. **Brácteas florales** más cortas que el ovario, angostamente triangulares, acuminadas, de 5-7 mm de largo. **Ovario** terete, no ornamentado, 15-24 x 1.5 mm. **Flores** 15-20, resupinadas, simultáneas, blancas, los sépalos manchados de pardo rojizo por la parte externa, la columna verde en la base, con aroma intenso y dulce. **Sépalo** extendidos, mucronados, agudos, 5-nervados, las venas exteriores más cortas que las interiores, el **dorsal** oblanceolado, 12-15 x 4.5 mm; los **laterales** angostamente elípticos a oblanceolados, oblicuos, 13-15 x 5 mm. **Pétalos** extendidos, oblanceolados, obtusos, 3-4-nervados, margen superior diminutamente crenado, 11 x 3.5 mm. **Labelo** unido a la columna, trilobado, angostamente cordado, 9 x 10 mm; bicalloso, callos sencillos, lateralmente aplanados; lóbulos laterales triangular dolabriformes , oblicuos, margen apical diminutamente crenado, 5 x 4 mm; lóbulo medio cuneado (ampliamente obovado), con ápice apiculado, subtruncado, con margen crenado, 5 x 6 mm. **Columna** ligeramente ensanchada hacia la parte media, 6 mm de largo, con dos procesos laterales amplios, redondeados. **Clinandrio** corto, entero. **Rostelo** apical, hendido; lóbulos laterales del estigma pequeños ocupando un tercio de la cavidad estigmática. **Antera** globosa, 4 locular, lisa, con una quilla ligera al frente. **Polinios** 4, obovoides, algo comprimidos, subiguales, con caudículas suaves y granulosas, más cortas que los polinios; viscidio semilíquido, transparente. **Nectario** sin sobrepasar el perianto, liso, no ornamentado. **Cápsula** no vista.

Terrestrial **herb**, branching above. **Roots** only at the base of the plant, thick. **Stems** erect, terete, secondary stems produced from the upper nodes. **Leaves** numerous, distributed throughout the upper ¾ of the stems, sheaths striated and somewhat rugose when dry, blade narrowly elliptic to lanceolate, apex unequally bilobed, progressively larger. **Inflorescence** apical from the main and secondary stems, nutant, racemose, with a short peduncle and a single bract near the base. **Floral bracts** narrowly triangular, acuminate, shorter than the ovary. **Flowers** 15-20, resupinate, simultaneous, white, the sepals dotted with reddish brown outside, the base of the column green, strongly and sweetly fragrant. **Sepals** narrowly elliptic to oblanceolate, mucronate, acute, 5-veined. **Petals** spreading, oblanceolate, obtuse, 4-veined, the upper margin minutely crenate. **Lip** united to the column, 3-lobed, narrowly cordate, bicallose, calli laterally compressed; lateral lobes triangular dolabriform, oblique, the outer margin minutely crenate; midlobe obcuneate, apex apiculate, margin crenate. **Column** straight, ending in two rounded lateral lobes, **Clinandrium** short, entire. **Nectary** not surpassing the perianth.

OTHER SPECIMENS: ECUADOR: Napo: km 64, Quito to Baeza, *Dodson et al. 13977* SEL! km 68 Quito-Baeza, *Dodson et al. 16423* RPSC! MO! QCNE! SEL! Papallacta, *Harling et al. 10381*, AMES! GB!

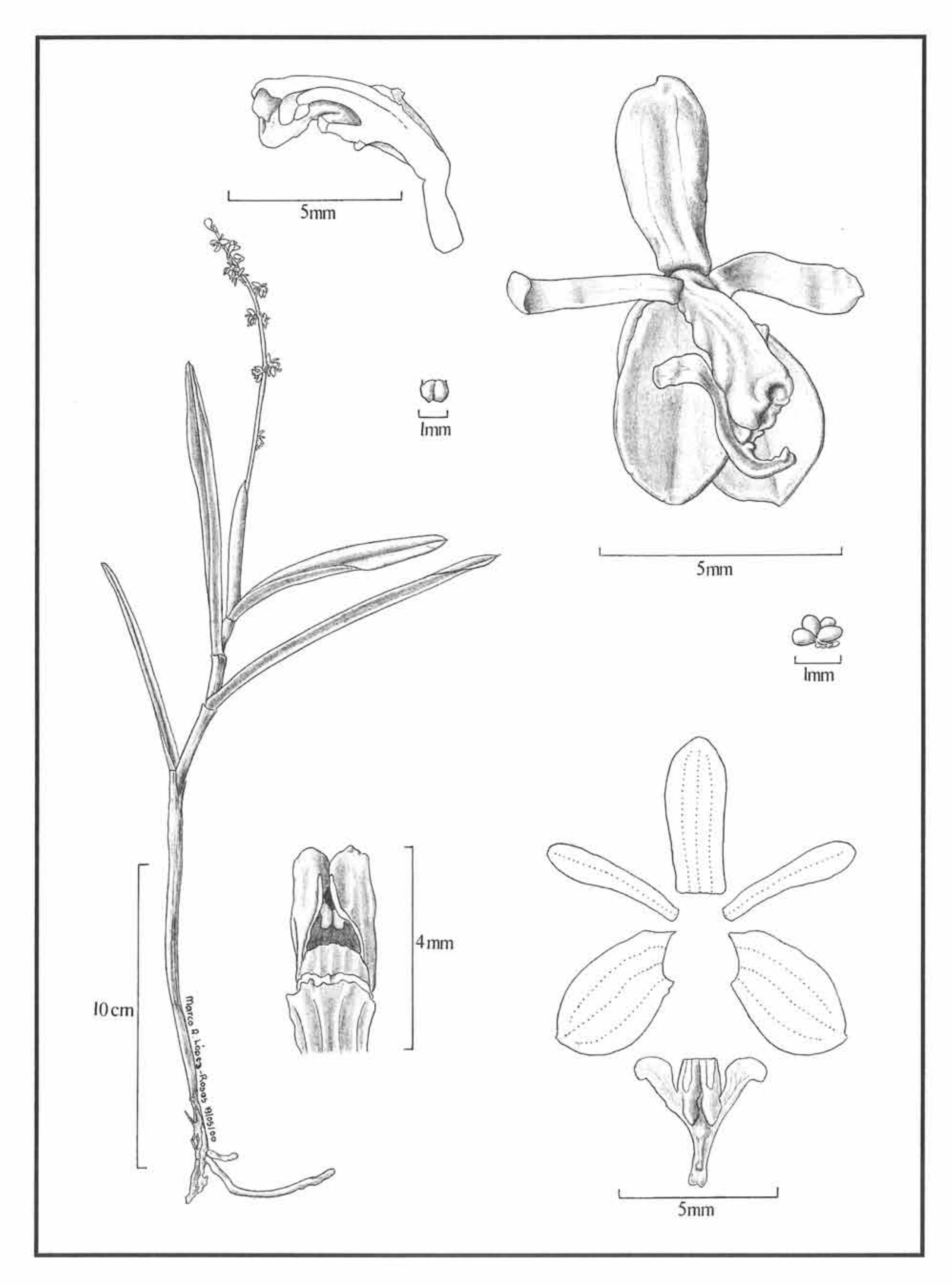
RECOGNITION: *Epidendrum cuyujense* belongs to the cernuum group, cernuum subgroup, recognized by the branching stems, bilobed leaves and 3-lobed lip, the lateral lobes triangular-dolabriform. *Epidendrum pastoënse* Schltr. lip 6-7.5 x 6-7 mm, apical lobe transversely rhombic, 5 mm wide, cream-colored, brownish spotted outside, flowers turn reddish upon drying, and are also fragrant and are found on both sides of the Colombian Ecuadorian border on the Amazon side of the Andes and the interandean valley. *Epidendrum suaveolens* Ames has wider petals (7 mm), suborbicular lateral lobes of the lip, and a longer column (10 mm); though also greenish-white and very odorous; it occurs on the Pacific side of the Colombian-Ecuadorian border and the interandean valley.



DISTRIBUTION AND ECOLOGY: Known only from the type locality, between Cuyuja and Papallacta, at 2700-2900 m on rocky slopes and roadside banks in humid montane forest. Flowering in May and June.

ETYMOLOGY: In reference to the locality where the species has been found, the village of Cuyuja, east of Quito.

Authors: E. Hágsater & C. H. Dodson **Illustrator: R. Jiménez M.** **Editors: E. Hágsater & L. Sánchez S.**
Herbario AMO Apartado Postal 53-123, 11320 México, D.F., MÉXICO



EPIDENDRUM CYLINDROSTENOPHYLLUM Hágsater & Dodson

Plate 431

EPIDENDRUM CYLINDROSTENOPHYLLUM Hágsater et Dodson, *sp. nov.*

Type: ECUADOR: Carchi: Above Maldonado west of Tulcan, ca. 1700-2000 m, 21 Feb. 1978, ***C. & J. Luer & A. Hirtz 2687.*** Holotype: SEL! (illustration voucher).

Epidendro cylindrostachys Rchb. f. & Warsc. simile sed foliis angustioribus, inflorescentia brevi, floribus minoribus et ovario brevi.

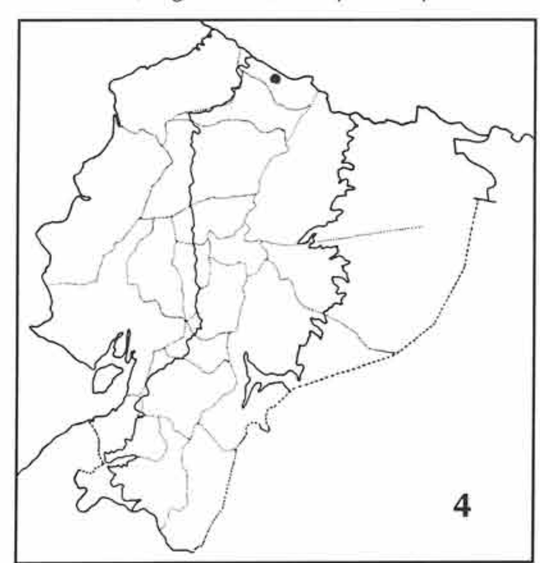
Hierba epífita, cespitosa, 33 cm de alto. **Raíces** basales, carnosas, 1.5-2 mm de grosor. **Tallos** sencillos, tipo caña, lateralmente aplanados en el tercio apical, teretes en los dos tercios basales, 18 X 0.1-0.2 cm, con dos vainas, parcialmente imbricadas, conduplicadas, ovadas, agudas, papiráceas, 2-4.5 X 2-3 cm. **Hojas** 4, distribuidas en el tercio apical, angostamente oblongo elípticas a lanceoladas, ápice aristado, con una quilla dorsal, margen entero, coriáceas, 7-11 X 0.6-0.9 cm. **Espata** 1, de lados casi paralelos, aguda, 5 x 0.7 cm. **Inflorescencia** apical, racemosa, 15 cm de largo; pedúnculo lateralmente comprimido, 6 cm de largo; raquis algo lateralmente comprimido, no ornamentado. **Brácteas florales** mucho más cortas que el ovario, triangulares, agudas, 1.5-2 mm de largo. **Ovario** ligeramente dilatado hacia el ápice, terete, no ornamentado, 3-5 mm de largo. **Flores** 20, simultáneas, resupinadas, blanco verdosas, fragancia no registrada. **Sépalos** extendidos, libres, obtusos, margen entero, 3-nervados; el **dorsal** oblongo, obtuso, 4.8 x 1.8 mm, los **laterales** más anchos, elípticos, oblicuos, 5 x 2.8 mm. **Pétalos** extendidos, oblongo oblanceolados, redondeados, margen entero, 1-nervados, 3.5-4 x 0.8-1 mm. **Labelo** unido a la columna, cordado, trilobado, 3-4.0 x 3.2-4.7; bicalloso, los callos laminares, extendiéndose en todo el disco hasta la base del lóbulo medio, con una quilla engrosada a la mitad del lóbulo medio; lóbulos laterales retrorsos, angostos en la base, transversalmente elípticos en el ápice, margen entero; lóbulo medio angostamente rectangular, ápice dilatado y bilobado, margen entero, en posición natural arqueado hacia arriba, frente a la columna. **Columna** arqueada, gruesa, 3-3.5 mm de largo. **Clinandrio** corto, entero. **Antera** 4-locular, reniforme. **Polinios** 4, obovoides, lateralmente comprimidos; caudículas granulosas, más cortas que los polinios. **Rostelo** subapical, hendido. **Lóbulos laterales del estigma** de ½ de largo de la cavidad estigmática. **Nectario** sin traspasar el perianto, no ornamentado. **Cápsula** no vista.

Epiphytic, caespitose **herb. Roots** basal, fleshy, thick. **Stems** simple, cane-like, laterally compressed above, almost completely covered by 2 sheaths below. **Leaves** 4, distributed along apical third, oblong-elliptic-lanceolate, aristate, margin entire, coriaceous. **Spathe** 1, sides parallel, acute. **Inflorescence** apical, racemose, peduncle laterally compressed, rachis somewhat laterally compressed, unornamented. **Floral bracts** much shorter that the ovary, triangular, acute. **Ovary** short, slightly thickened near the apex, terete, unornamented. **Flowers** 20, simultaneous, resupinate, greenish white. **Sepals** spreading, free, elliptic, obtuse, 3-veined, the laterals wider. **Petals** spreading, incurved, oblong-oblanceolate, rounded, margin entire, 1-veined. **Lip** united to the column, cordate, 3-lobed; bicallose, the calli laminar, extending to the middle of the disc, with a central keel in the middle of the midlobe; lateral lobes retrorse, narrow at the base, transversely elliptic at the apex, margin entire; midlobe narrowly rectangular, apex dilated and bilobed, margin entire. **Column** arched, thick. **Clinandrium** short, entire. **Anther** reniform, 4-celled. **Pollinia** 4, obovoid, laterally compressed; caudicules granulose, shorter than the pollinia. **Nectary** not penetrating the ovary.

OTHER SPECIMENS: None seen.

DISTRIBUTION AND ECOLOGY: Known only from the type locality in northern Ecuador, epiphytic in cloud forest at ca. 1700-2000 m altitude. Flowering in February.

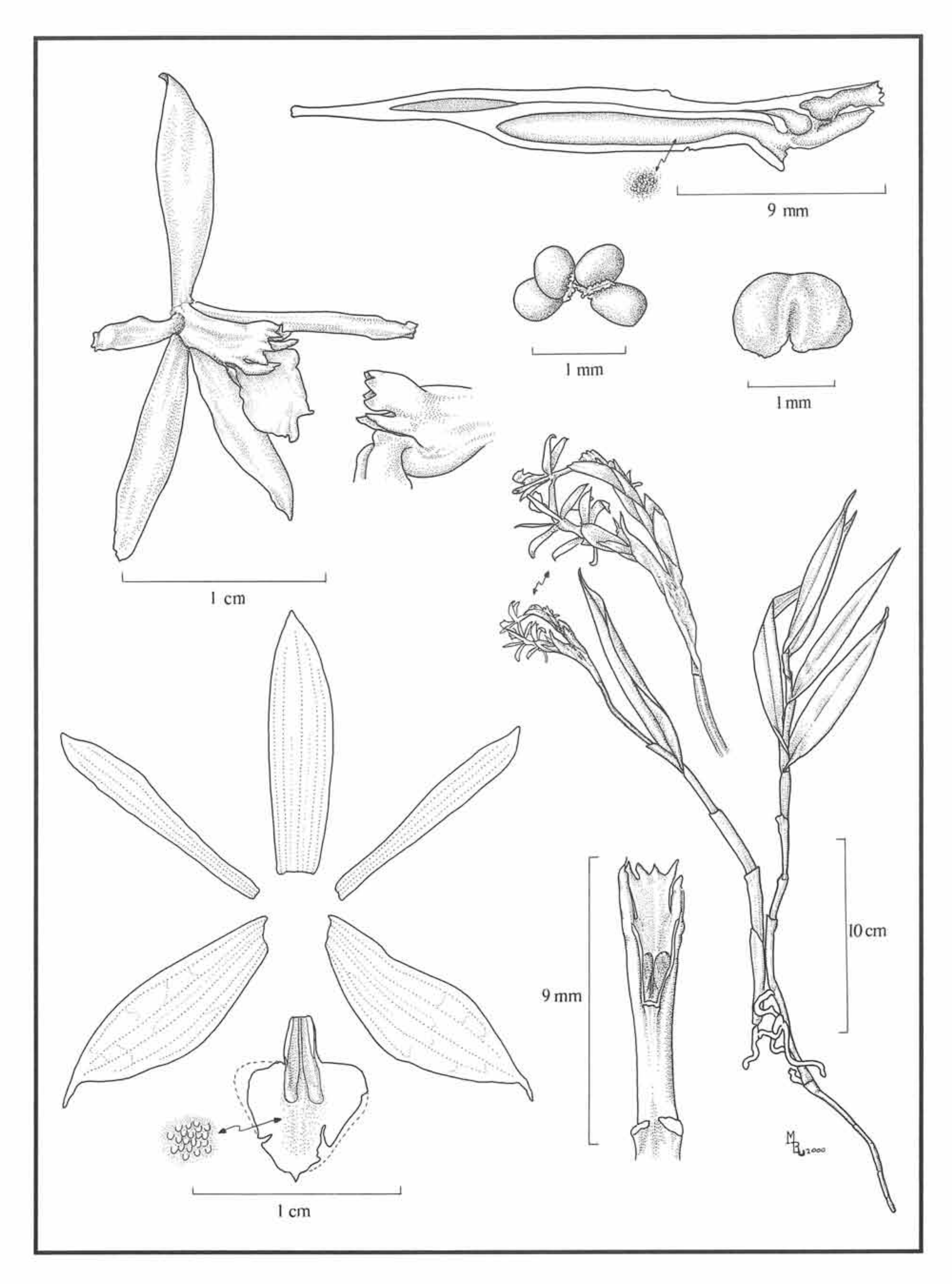
RECOGNITION: *Epidendrum cylindrostenophyllum* belongs to the cylindraceum group and is recognized by its narrow leaves, ca. 1 cm wide, inflorescence 15 cm long, small sepals and petals, 3.5-5 mm long, lateral lobes of the lip retrorse and narrow at the base, transversely elliptic at the apex. It is similar to *Epidendrum cylindrostachys* Rchb. f. & Warsc. which has a longer inflorescence, larger flowers, the sepals and petals 8-10 mm long, falcate lateral lobes of the lip. *Epidendrum cylindraceum* Lindl. has wider leaves, 2-3.5 cm wide, longer inflorescence, falcate lateral lobes of the lip, and a smaller midlobe of the lip.



CONSERVATION STATUS: DD. Data deficient.

ETYMOLOGY: From the Greek κυλινδρος, a cylinder, referring to the cylindrical inflorescence typical of this group, and στενος, narrow, and φυλλον, leaf, in reference to the narrow leaves that distinguish this species from most others of this group.

Authors: E. Hágsater & C. H. Dodson **Illustrator: M. López R.** **Editors: E. Hágsater & L. Sánchez S.**
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EPIDENDRUM DACTYLOCLINIUM Hágsater & Dodson Plate 432

EPIDENDRUM DACTYLOCLINIUM Hágsater et Dodson, *sp. nov.*

Type: ECUADOR: Zamora-Chinchipe: along road from Yangana to Valladolid at Cerro Tapichalaca south of the pass, 2000 m, Aug-Oct 1985, ***D. Dalessandro 481.*** Holotype: RPSC! (illustration voucher).

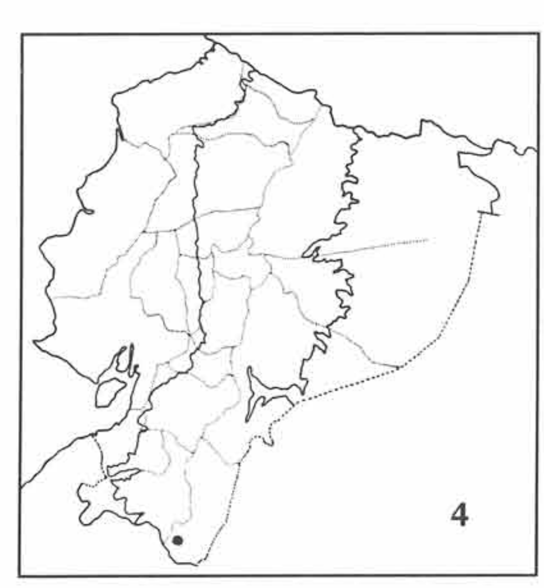
Epidendro lankesteri Ames simile sed petalis lineari-lanceolatis trinervatis, labello triangulari angulis rotundatis, breviter apiculato, clinandrio longissimo trilobato, lobulo dorsali dentato, lobulis lateralibus digitiformibus, nectario inflato ovarii dimidium penetranti differt.

Hierba epífita, erecta, de simpodio alargado, hasta de 30 cm de alto. **Raíces** de algunos entrenudos basales, carnosas, blancas, 1-2.5 mm de grosor. **Tallos** sencillos, tipo caña, teretes en la parte rastrera, arriba lateralmente aplanados, 27 x 0.28-0.57 cm. **Hojas** 3-5, distribuidas en el cuarto apical de los tallos, alternas, articuladas, subcoriáceas; vainas tubulares, ancipitosas, estriadas cuando secas, las inferiores no foliosas, 1.4-4.3 cm de largo; lámina angostamente elíptico lanceolada, acuminada, 9.8-12.5 x 1.0-1.8 cm. **Espata** ausente. **Inflorescencia** apical, pluriracemosa (con el tiempo se producen nuevos racimos del ápice del mismo pedúnculo), erecta, 10.2 cm de largo; pedúnculo ancipitoso, bialado, elongado, desnudo, desprovisto de brácteas excepto por una en la base del racimo, más grande que las florales. **Brácteas florales** algo más largas que el ovario, oblongo elípticas, obtusas a redondeadas, margen entero, conduplicadas e imbricadas, fibrosas con el tiempo, 15 x 5 cm. **Flores** sucesivas, cuando varias abiertas a la vez una por racimo, resupinadas, sépalos y pétalos verde claro, labelo blanco, sin datos de fragancia. **Ovario** terete, dilatado ventralmente en la mitad apical, 15 mm de largo. **Sépalos** extendidos, ápices reflexos, libres, angostamente elípticos, agudos, margen entero, 5-nervado, 12.6-13.0 x 3-4.2 mm; los **laterales** apiculados. **Pétalos** extendidos, libres, linear oblanceolados, agudos, margen entero, 3-nervados, 11 x 1.6 mm. **Labelo** unido a la columna, truncado en la base, triangular, esquinas redondeadas, diminutamente apiculado, margen entero, 6.0 x 6.4 mm; bicalloso, los callos delgados, alargados; disco desprovisto de quillas, papiloso. **Columna** delgada, recta, 9 mm de largo incluyendo el clinandrio. **Clinandrio** prominente, sobrepasando el cuerpo de la columna, de un tercio del largo total de la columna, margen trilobado, el lóbulo dorsal profundamente dentado, lóbulos laterales oblongos, agudos. **Antera** reniforme, 4-locular. **Polinios** 4, ovoides; caudículas suaves y granulosas. **Rostelo** hendido. **Lóbulos laterales del estigma** de la mitad de largo de la cavidad estigmática. **Nectario** penetrando la mitad del ovario, ancho, diminutamente papiloso. **Cápsula** no vista.

Epiphytic **herb**, with elongate sympodium. **Roots** from some of the basal nodes of the stem, thick. **Stem** cane-like, terete in the repent basal portion, laterally flattened above. **Leaves** 3-5, distributed along the apical fourth of the stem, sheaths ancipitose, blade elliptic-lanceolate, acuminate. **Spathe** absent. **Inflorescence** apical, pluri-racemose (producing new racemes from the apex of the peduncle with time), erect, peduncle ancipitose, bi-winged, elongate, nude, with a prominent bract at the base of the racemes, the bract larger than the floral bracts. **Floral bracts** somewhat longer than the ovary, oblong-elliptic, obtuse to rounded, conduplicate and imbricate. **Flowers** successive, when several at once, one from each raceme, resupinate, sepals and petals light green, lip white. **Ovary** terete, dilated ventrally along the apical half. **Sepals** spreading, apices reflexed, narrowly elliptic, acute, margin entire, 5-veined, laterals apiculate. **Petals** spreading, linear-oblanceolate, acute, margin entire, 3-veined. **Lip** united to the column, truncate at the base, triangular, corners rounded, minutely apiculate, bicallose, the calli narrow, elongate, disc papillose. **Column** thin, straight. **Clinandrium** prominent, occupying one third of the length of the column, three-lobed, dorsal lobe deeply dentate, lateral lobes oblong, acute. **Pollinia** 4, obovoid, caudicles soft and granulose. **Rostellum** slit. **Nectary** penetrating half the ovary, wide, minutely papillose.

OTHER SPECIMENS: ECUADOR: Pastaza: Mera, *Harling et al. 19654*, GB!.

DISTRIBUTION AND ECOLOGY: Known only from the type locality in southern Ecuador, at Cerro Tapichalaca, at 2000 m altitude.

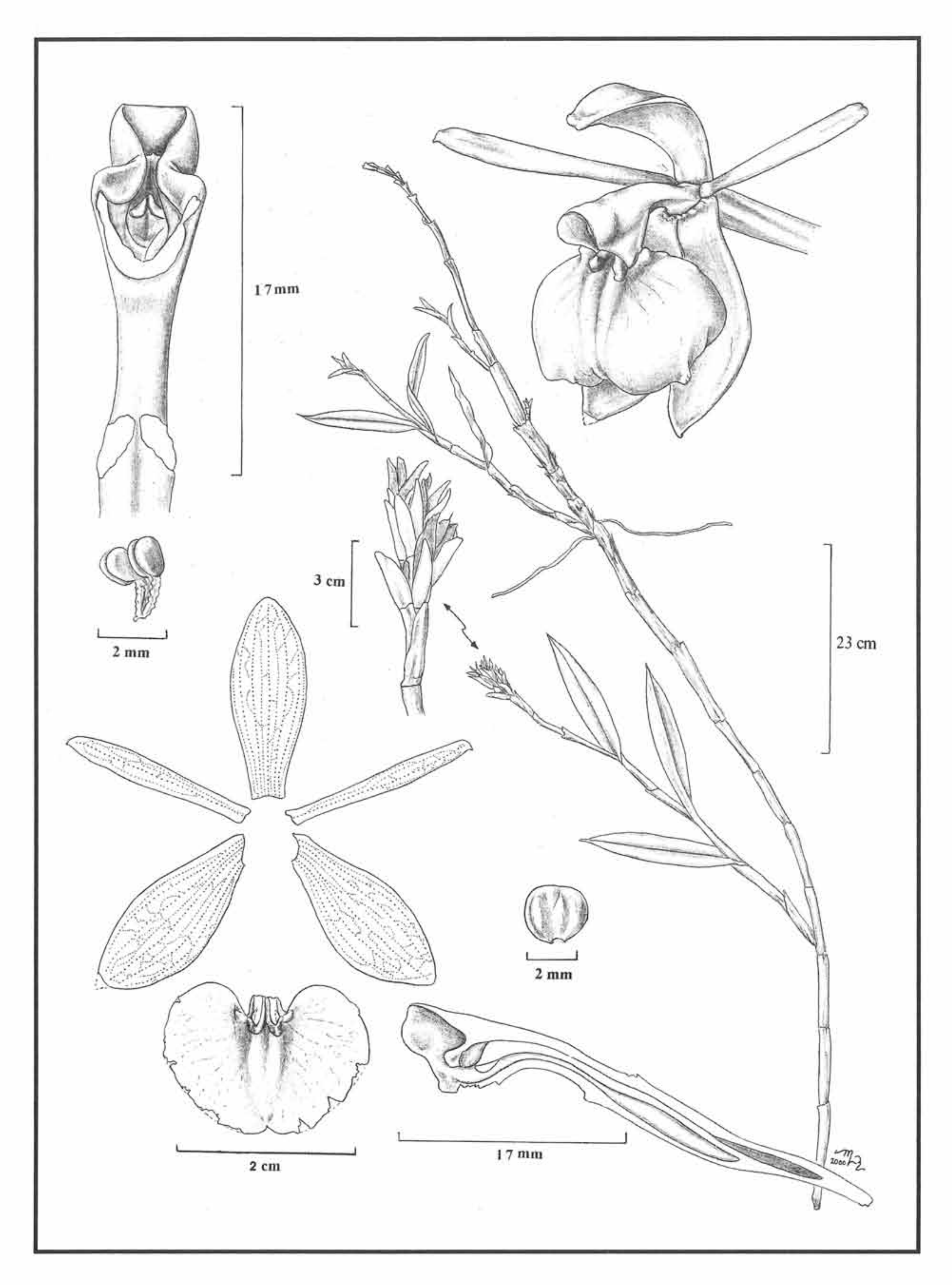


RECOGNITION: *Epidendrum dactyloclinium* belongs to the allenii subgroup of the physinga group, recognized by the caespitose habit, ancipitose stems, apical inflorescence, the apical peduncle ancipitose to the extreme of being bi-winged, the raceme subtended by a conduplicate bract at the apex of the peduncle, the floral bracts imbricate, flowers successive, one at a time, with a frequently prominent clinandrium. The species is recognized by the prominent three-lobed clinandrium with the lateral lobes finger-like, the dorsal lobe deeply dentate, the lip triangular with the corners rounded, and the petals linear-oblanceolate. *Epidendrum nematopetalum* Hágsater & Dodson has filiform petals, a cordiform lip and a prominent, entire clinandrium somewhat arched with the apical margin minutely dentate. *Epidendrum lankesteri* Ames from Costa Rica has 5-9 mm long floral bracts, the bract at the base of the rachis larger, lip semi-elliptic, truncate at the base, somewhat lobed laterally towards the base and filiform petals 1-veined, clinandrium short, obscurely lobed.

CONSERVATION STATUS: DD. Data deficient.

ETYMOLOGY: From the Greek, δακτυλος, finger, and κλινη bed, in reference to the lateral lobes of the clinandrium which are oblong, acute and thus finger-like.

Authors: E. Hágsater & C. H. Dodson **Illustrator: M. López R.** **Editors: E. Hágsater & L. Sánchez S.**
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EPIDENDRUM DALESSANDROI Hágsater & Dodson

Plate 433

EPIDENDRUM DALESSANDROI Hágsater et Dodson, *sp. nov.*

Type: ECUADOR: Loja: Yangana to Valladolid. El Cachaco, km 15.8, 2340 m, 10 sep. 1999, ***E. Hágsater y C. H. Dodson 12307.*** Holotype: QCNE! (illustration voucher). Isotype: AMO!

Epidendro phyllocharis Rchb. f. similare sed caulibus valde ancipitiis, inflorescentiis elongatis, inflorescentiae lateralis pedunculo ancipitio, foliis acuminatis, floribus majoribus, sepalo dorsali cucullato, labello convexo late cordiformi recedit.

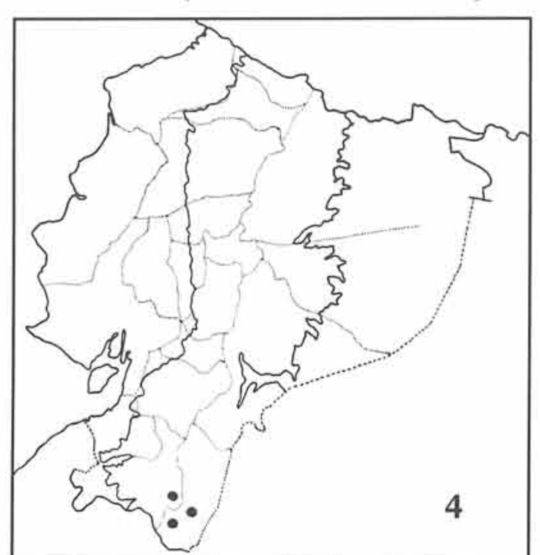
Hierba epífita, rastrera, ramificada, de más de 130 cm de alto. **Raíces** de la base y de las ramificaciones, carnosas, 1-2.5 mm de grosor. **Tallos** ramificados, tipo caña, teretes en la base, ancipitosos arriba, suberecto, el principal, 63-124 x 0.9-1.5 cm; las ramificaciones 11.5-27 x 0.4-0.9 cm. **Hojas** numerosas en el tallo principal, 4 en las ramas, distribuidas en la parte media apical de los tallos, alternas, articuladas; vainas ancipitosas, estriadas cuando secas, las inferiores no foliosas, fibrosas con el tiempo, 2-9.1 cm de largo; lámina angostamente elíptica, acuminada, con una quilla dorsal diminuta, las del tallo principal más grandes, 20.5-21.5 x 3.4-4.3 cm; las de las ramas 11.5-16.8 x 1.1-3 cm. **Espata** ausente. **Inflorescencia** apical y lateral, florece varias veces, un racimo compuesto, erecta, con el tiempo se producen racimos nuevos de las braceas intermedias del pedúnculo, 12.5-20 cm de largo; pedúnculo ancipitoso, elongado, 9-11.5 cm, provisto de 1-2 brácteas apicales, semejantes a las florales, 3.1 cm de largo. **Brácteas florales** más largas que el ovario, oblongo elípticas, obtusas a redondeadas, margen entero, conduplicadas e imbricadas, 2.5-3.3 x 0.5-0.9 cm. **Flores** hasta 15, sucesivas, una a la vez, resupinadas, color rosado rojizo a verdoso difuminadas con cobrizo, el centro del labelo más claro, sin fragancia. **Ovario** terete, ligeramente dilatado ventralmente en el ½ apical, no ornamentado, 22 mm de largo. **Sépalos** extendidos, libres, obovados, obtusos, margen entero, 6-7-nervado, 20-22 x 8.4-9.4 mm, el **dorsal** cuculado. **Pétalos** extendidos, libres, oblongos, oblicuamente obtusos, margen entero, 1-nervados, ramificados, 20 x 2.6-3 mm. **Labelo** unido a la columna, cordiforme, emarginado, convexo, margen entero, 1.7 x 2.2 mm; bicalloso, los callos laminares, pequeños; disco desprovisto de quillas. **Columna** delgada, ligeramente arqueada, 17 mm de largo. **Clinandrio** prominente, sobrepasando la columna, entero. **Antera** subglobosa, 4-locular. **Polinios** 4, obovoides; caudículas suaves y granulosas. **Rostelo** hendido. **Lóbulos laterales del estigma** de 1/2 de largo de la cavidad estigmática. **Nectario** penetrando 1/2 del ovario, ensanchado justo detrás del perianto, no ornamentado. **Cápsula** no vista.

Epiphytic, straggling, branching **herb. Roots** fleshy from the base and base of branches. **Stems** branching, cane-like, terete at base, ancipitose above. **Leaves** numerous, distributed throughout the stem, sheath ancipitose, striated; blade narrowly elliptic, acuminate, those of the main stem larger than on the branches. **Inflorescence** apical and lateral, compound racemose, producing new racemes with time from the bracts of the peduncle; peduncle elongate, ancipitose, bracts prominent. **Floral bracts** longer than the ovary, oblong-elliptic, obtuse to rounded, conduplicate and imbricating. **Ovary** terete, somewhat inflated ventrally in the apical half. **Flowers** successive, one at a time, resupinate, reddish pink to greenish tinged with copper, the center of the lip lighter, not fragrant. **Sepals** spreading, obovate, obtuse, 6-7-veined, **dorsal** cucullate. **Petals** free, oblong, obliquely obtuse, margin entire, 1-veined. **Lip** united to the column, cordiform, emarginate, convex, bicallose, the calli laminar, small. **Column** slightly arched. **Clinandrium** prominent, surpassing the column, entire. **Anther** subglobose, 4-celled. **Pollinia** 4, obovoid, caudicules smooth and granular. **Rostellum** subapical, slit. **Nectary** penetrating half the ovary, widened behind the perianth, unornamented.

OTHER SPECIMENS: ECUADOR: Loja: Matala, Ost-Andes von Loja, *Lehmann sub H[erb.] K[ew] 470*, K! **Zamora-Chinchipe:** Yangana to Valladolid, Quebrada Honda, *D'Alessandro 525*, RPSC! Yangana to Valladolid, beyond pass, 2100 m, *Dodson, Embree and D'Alessandro 16036*, RPSC!

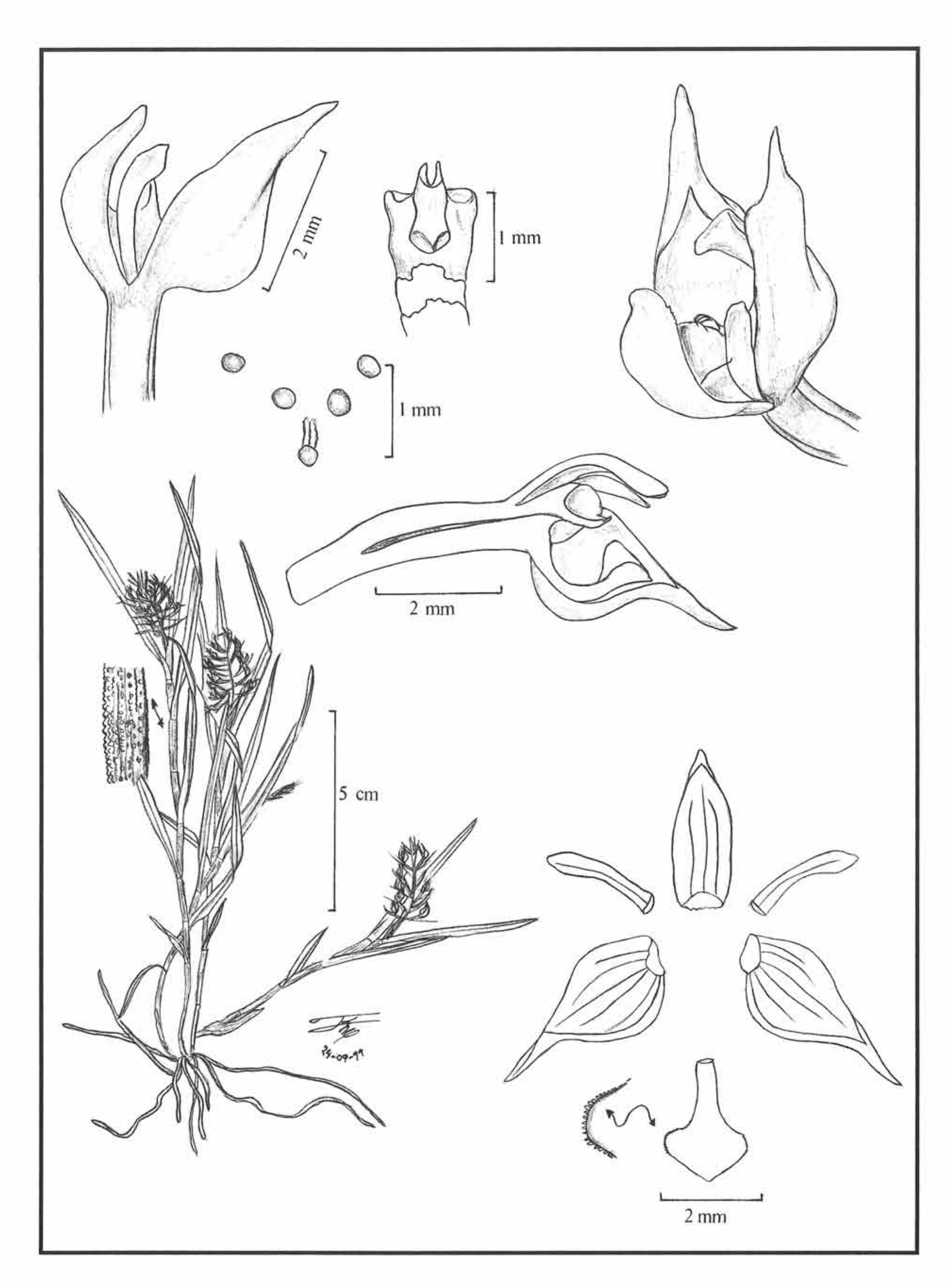
DISTRIBUTION AND ECOLOGY: Known only from southern Ecuador, near the passes of the Andes, at 2100-2800 m, epiphytic in cloud forest in wet bogs. Flowering in July-September.

RECOGNITION: *Epidendrum dalessandroi* belongs to the albertii group and subgroup and is recognized by the long plants with apical and lateral inflorescences, the ancipitose cane-like stems, the long, ancipitose peduncle of the inflorescence covered partially by rounded conduplicate bracts, and the large flowers with a convex, cordiform, emarginate lip, dorsal sepal cucullate, the column prolonged by the long, entire clinandrium. *Epidendrum phyllocharis* Rchb.f. has somewhat flattened stems, bilobed leaves, and smaller flowers, the dorsal sepal spreading, erect, lip 5-angled.



CONSERVATIONS STATUS: DD. Data deficient.

ETYMOLOGY: In honor of Dennis D'Alessandro, American agronomist who lived in Vilcabamba and collected numerous orchids in southern Ecuador. He collected this species and thus brought it to our attention.



EPIDENDRUM DIALYRHOMBICUM Hágsater & Dodson Plate 434

EPIDENDRUM DIALYRHOMBICUM Hágsater et Dodson, *sp. nov.*

Type: ECUADOR: Napo: Baeza to Lago Agrio, at Reventador, 1500 m, 10 April 1990, ***A. Hirtz 4807.*** Holotype: RPSC! (illustration voucher). Isotype: QCNE!

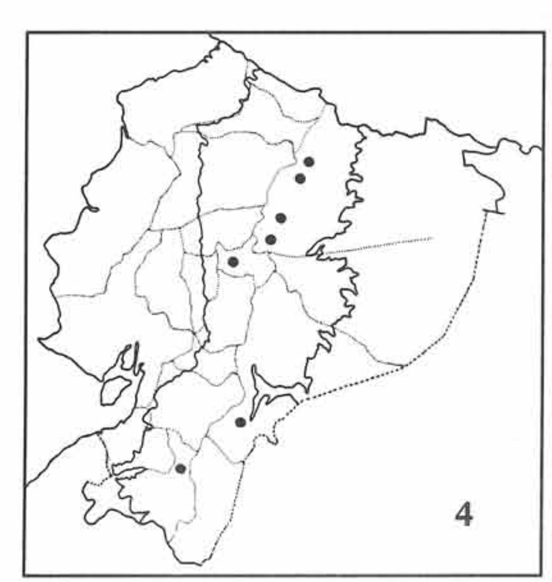
Epidendro dialychilo Hágsater & Dodson simile sed habitu floribusque minoribus, labello libero rhombeo cum ungue basali longo, labello ad marginem minute papillato divergens.

Hierba cespitosa, de 8-18 cm de alto. **Rizoma** corto. **Raíces** basales, filiformes, de 0.3-0.5 mm de grosor. **Tallos** tipo caña, lateralmente comprimidos, ligeramente flexuosos, 5-12 x 0.1-0.2 cm. **Hojas** 4-6, articuladas, distribuidas en los 2/3 apicales del tallo; vainas ancipitosas, finamente rugosas, estriadas, el inferior no foliosa, 6-18 mm de largo; lámina linear lanceolada, acuminada, gramínea, con una quilla dorsal prominente, verde oscuro, desiguales, progresivamente más largas, 1.5-7.0 x 0.2-0.4 cm. **Espatas** 1-2, agudas, más largas que el pedúnculo y ocultándolo, 0.6-1.5 x 0.15 cm. **Inflorescencia** apical, del crecimiento maduro, racemosa, erecta, con 15-26 flores, racimo de 2-2.5 x 1.2-1.5 cm, pedúnculo de 1 cm de largo, cubierto por la espata. **Brácteas florales** hasta del doble de longitud del ovario, muy delgadas, linear triangulares, acuminadas, 5-8 x 0.5 mm. **Ovario** terete, algo más grueso en los dos tercios apicales, 3.5-6 mm de largo. **Flores** pequeñas, no resupinadas, el labelo siempre orientado hacia el raquis; simultaneas, color verde fuerte, labelo y columna blanco verdoso; fragancia aparentemente ausente. **Sépalos** entreabiertos, ovados, engrosados cerca del ápice, las nervaduras centrales claramente realzadas en seco; el **dorsal** agudo, 3-nervado, 3.0-3.2 x 1.2 mm; los **laterales** acuminados, con una quilla prominente dorsal apical, 5-nervados, 4 x 1.7 mm. **Pétalos** entreabiertos, linear, algo más angostos hacia la parte media, arqueados, agudos, asimétricos, 1-nervados, 2.2-2.3 x 0.05 mm. **Labelo** libre de la columna, entero, lámina rómbica con una uña basal larga y angosta en la base, en posición natural arqueado, la base insertada en ángulo recto a la base de la columna, dándole a la flor una aspecto globular, margen minutamente papiloso, 2.4-2.8 x 1.2-1.7 mm; ecalloso, uña de 1.5 x 0.35 mm. **Columna** corta, gruesa, dorsalmente 1.4 mm de largo incluyendo el rostelo que sobresale del resto del cuerpo. **Clinandrio** reducido, entero. **Antera** reniforme, con una quilla roma al frente, 4 locular. **Polinios** 4, lenticulares, lateralmente comprimidos, subiguales, caudículas suaves y granulosas, más largas que los polinios; viscidio semilíquido. **Rostelo** sobresaliendo del cuerpo de la columna, hendido. **Lóbulos laterales del estigma** pequeños. **Nectario** ausente, en su lugar se forma una cámara amplia entre la columna y el labelo, lisa, cerrada hacia los lados por los sépalos. **Cápsula** no vista.

Caespitose **herb. Stems** cane-like, simple, flexuous, ancipitous. **Leaves** 4-6, distributed along the apical 2/3 of the stem, linear-lanceolate, grass-like. **Spathes** 1-2, narrow, acute. **Inflorescence** racemose, erect, shorter than the leaves. **Floral bracts** up to twice as long as ovary, linear-acuminate. **Flowers** not resupinate, simultaneous, deep green, column and lip white, not fragrant. **Sepals** partly open, ovate, acuminate, dorsal 3-veined, laterals 5-veined. **Petals** linear, arched, 1-veined. **Lip** free from column, entire, blade rhombic with a long basal claw, inserted at a right angle at the base of the column, giving the flower a globular aspect, margin minutely papillose; ecallose. **Clinandrium** reduced, entire. **Anther** reniform, 4-celled. **Pollinia** 4, lentil-shaped, subequal, caudicules soft and granular, longer than the pollinia, viscidium semi-liquid. **Rostellum** apical, surpassing the body of the column, slit. **Nectary** lacking, in its place a chamber is formed by the column, lip and lateral sepals.

OTHER SPECIMENS: ECUADOR: Morona-Santiago: Arapicos, 850 m, *Lugo 6013* GB! **Napo:** Zatzayacu, 400 m, *Dodson et al. 3765* SEL! Baeza, por El Chaco, hort. Ecuagenera, *Hágsater 12276* AMO! QCNE! **Tungurahua:** Río Topo, *Harling et al. 10087* GB! Río Negro, 1500 m, *Hirtz 4* QCA!, SEL! **Zamora-Chinchipe:** Loja-Zamora, km 25, 2200 m, *Dodson et al. 17986* RPSC! Los Encuentros to Rio Machinaza, 1350-1650 m, *Hirtz 3773* RPSC!

DISTRIBUTION AND ECOLOGY: From the eastern slopes of the Andes in Ecuador and the northwestern base of the Cordillera del Condor, at 400-1650 m altitude. Flowering in April, May and September.

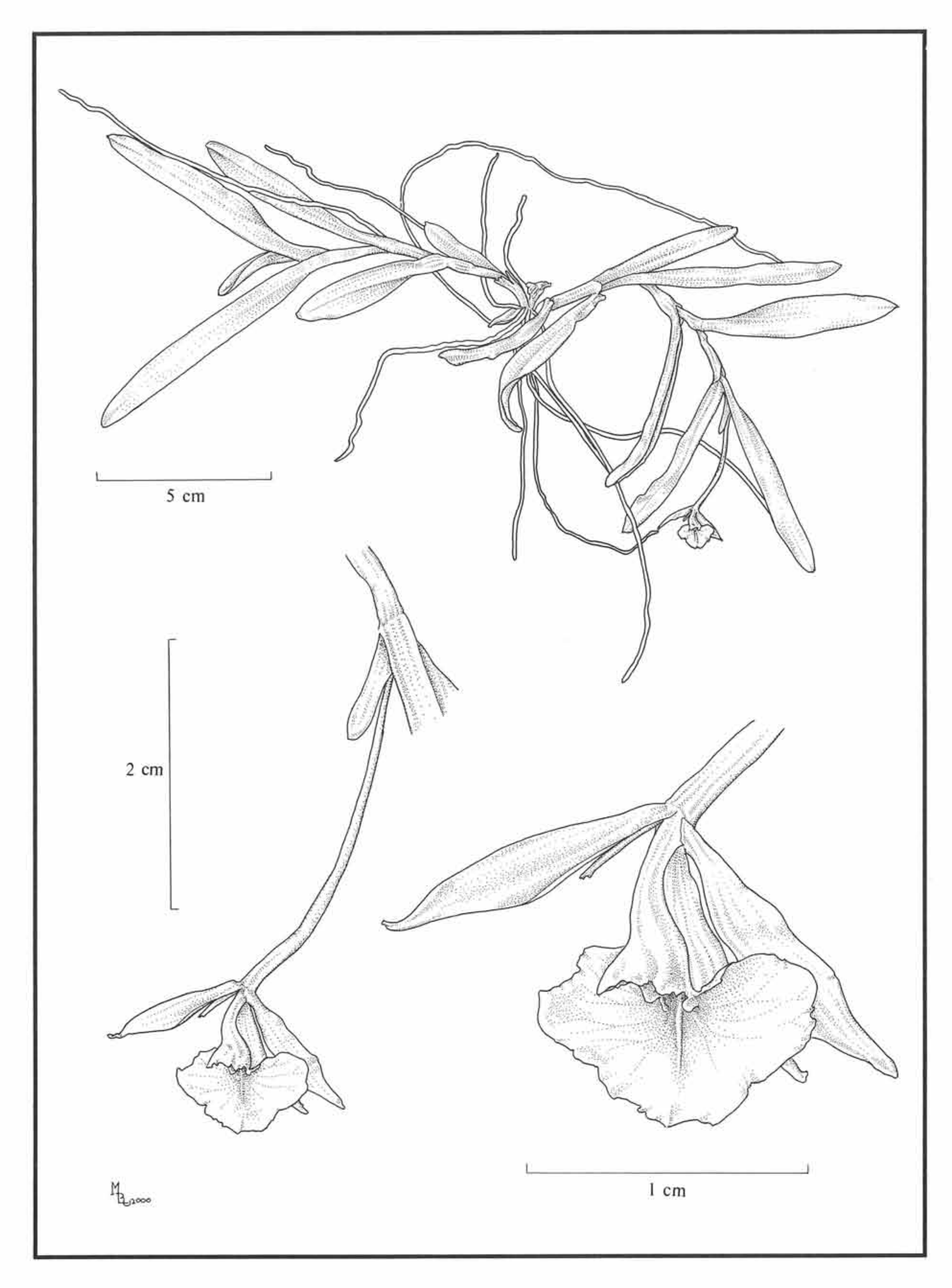


RECOGNITION: *Epidendrum dialyrhombicum* belongs to the alpicolum group, dialychilum subgroup and is recognized by the small-sized plants with narrow grass-like leaves up to 7 x 0.4 cm; the short, erect, compact inflorescence with deep green and white, globular and setaceous, non-resupinate flowers, the sepals 3-4 mm long, the lip free from the column, rhombic with a long, narrow claw perpendicular to the base of the lip and then turning up and parallel to it, the column with the rostellum projecting beyond the rest of the body. *Epidendrum dialychilum*, another of the few species of the genus with a free lip, has the lip straight and narrowly lanceolate-elliptic, and the flowers larger, the sepals being 8.5-11 mm long. *Epidendrum pterostele* Hágsater & Dodson also has a free lip, but narrowly elliptic, and the column has a prominent clinandrium which gives it a winged appearance. *Epidendrum zosterifolium* F. Lehm. & Kraenzl. is superficially similar in overall size, has wider leaves (5-12 mm), white and greenish flowers with a 3-lobed lip united to the column, and a prominent funnel-shaped clinandrium.

CONSERVATION STATUS: DD. Data deficient.

ETYMOLOGY: From the Greek διαλυω dispersed, separated and ρομβικοσ rhombic, in reference to the lip which is free from the column and rhombic.

Authors: E. Hágsater & C. H. Dodson **Illustrator: R. Jiménez M.** **Editors: E. Hágsater & L. Sánchez S.**
Herbario AMO Apartado Postal 53-123, 11320 México, D.F., MÉXICO



EPIDENDRUM DODII L. Sánchez & Hágsater Plate 435

EPIDENDRUM DODII L. Sánchez et Hágsater, *sp. nov.*

Type: DOMINICAN REPUBLIC: On banks of Rio Masacre, Loma de Cabrera, 200 m, 21 Oct. 1969, ***Alain H. Loigier 16433.*** Holotype: NY! (illustration voucher).

Epidendro sertorum Garay & Dunst. simile sed foliis angustioribus, segmentis floralibus minoribus, labello integro usque obscure trilobato, columna arcuata processos apicales prominentes ferenti discrepans.

Hierba epífita, cespitosa, 10-11 cm de alto incluyendo la inflorescencia. **Raíces** basales, carnosas, 0.5-0.7 mm de grosor. **Tallos** sencillos, tipo caña, lateralmente comprimidos, flexuosos, 6-7 x 0.10-0.13 cm. **Hojas** 5-8, equidistantes a lo largo del tallo, erectas; vaina tubular, lateralmente comprimida, lisa, 0.9-1.5 cm de largo; lámina angostamente oblongo elíptica, ápice retuso, margen entero, coriácea, sin carina dorsal, color verde, 4.5-8 x 0.6-1 cm. **Espata** ausente. **Inflorescencia** apical en el tallo maduro, florece una sola vez. **Bráctea floral** mucho más corta que el ovario, ovada, obtusa, 5 mm de largo. **Flor** 1, resupinada, color crema, fragancia no registrada. **Ovario** no inflado, terete, no ornamentado, 28.5 x 1 mm. **Sépalos** extendidos, libres, glabros, membranáceos, elípticos, acuminados, margen revoluto, entero, 3 nervados, 10-12 x 1.8-2 mm; los **laterales** ligeramente oblicuos. **Pétalos** membranáceos, entreabiertos, lineares, agudos, margen extendido, 1 nervado, 10-11 x 0.5-0.7 mm. **Labelo** unido a la columna, entero, cordiforme, oscuramente trilobado, base ampliamente triangular, 7.8 x 10 mm; bicalloso, los callos pequeños, subglobosos, base del disco con algunas venas ligeramente engrosadas, ligeramente apiculado. **Columna** arqueada, 6.7 x 1.6 mm, con procesos laterales prominentes, enteros. **Clinandrio** prominente, en forma de embudo, margen dentado eroso, 1.3 mm de largo. **Antera** no vista. **Polinios** no vistos. **Rostelo** no visto. **Lóbulos laterales del estigma** no vistos. **Nectario** no visto. **Cápsula** no vista.

Epiphytic, caespitose **herb**. **Stems** simple, laterally compressed. **Leaves** 5-8, erect; narrowly oblong-elliptic, retuse. **Inflorescence** apical, flowering only once. **Floral bract** smaller than the ovary, ovate, acute. **Flower** 1, resupinate, cream. **Ovary** not inflated, terete, unornamented. **Sepals** spreading, free, glabrous, membranaceous, elliptic, acuminate, 3-veined; the **laterals** oblique. **Petals** membranaceous, spreading, linear, acute, 1-veined. **Lip** united to the column, entire, cordiform, widely triangular, obscurely three-lobed, cordate base; bicallose, the calli subglobose, disc with few thickened veins; apiculate. **Column** arcuate, with two lateral, prominent, entire processes. **Clinandrium** prominent, funnel-shaped, margin erose-dentate.

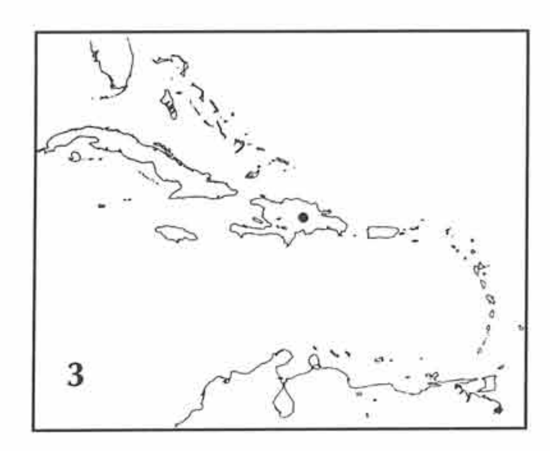
OTHER SPECIMENS: Not seen.

DISTRIBUTION AND ECOLOGY: Known only from northern Dominican Republic. Epiphytic on trees, 200 m altitude. Flowering in October.

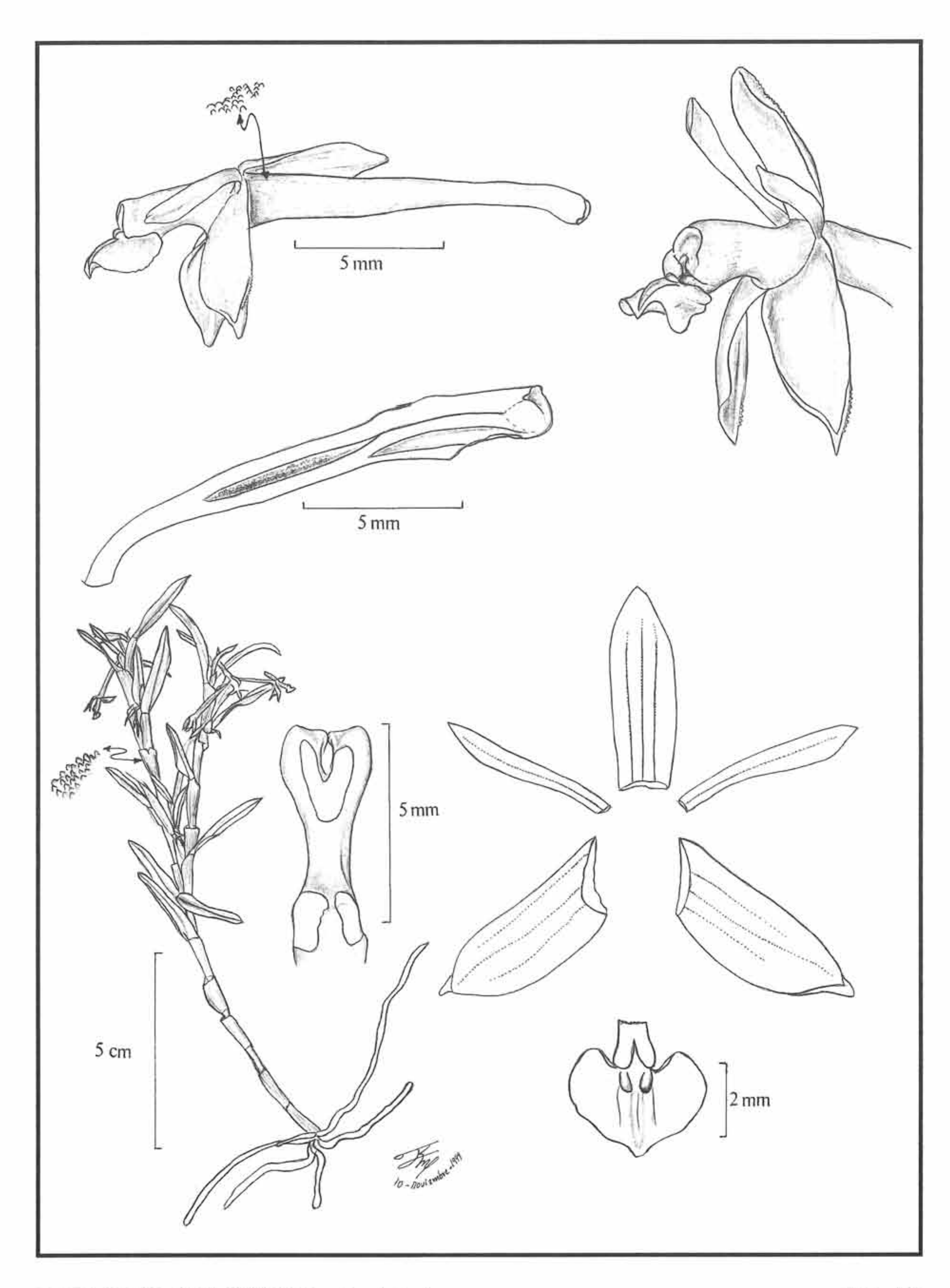
RECOGNITION: *Epidendrim dodii* is member of the difforme group and can be recognized by its small plants, narrow, erect leaves, inflorescence with a single, cream-colored flower, entire, cordiform, obscurely three-lobed lip, arcuate column, with two prominent lateral processes and prominent, funnel-shaped erose-dentate clinandrium. It is similar to *Epidendrum sertorum* but that species grows in Venezuela and has 3-7, wider leaves, longer, yellowish green flowers, entire lip, straight column without lateral processes. *Epidendrim dodii* is very different from other Caribbean species which have taller, more vigorous plants, wider leaves, inflorescences with 3-5 or more longer, green to yellowish green flowers and different lips.

CONSERVATION STATUS: Data deficient.

ETYMOLOGY: In honor to Donald D. Dod, who has spent many years of his life studying the orchids of the island of Hispaniola, mainly in the Dominican Republic. He is now living in Berkeley, California, U.S.A.



Authors: L. Sánchez S. & E. Hágsater **Illustrator: M. López R.** **Editors: E. Hágsater & L. Sánchez S.**
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EPIDENDRUM ELLEMANNII Hágsater & Dodson

Plate 436

EPIDENDRUM ELLEMANNII Hágsater et Dodson, *sp. nov.*

Type: ECUADOR: Loja: Road Loma del Oro (S of Saraguro) toward Fierro Urcu, ca. km 9. Elfin forest and adjacent páramo, ca. 3400 m, 12 Mar. 1989. ***B. Øllgaard, J. E. Madsen & L. Ellemann 91014.*** Holotype: AAU! (illustration voucher).

Epidendro cartilaginifloro Rchb. f. simile sed floribus minoribus et labello cordiformi.

Hierba epífita, erecta, ramificada arriba, de 15 cm de alto. **Raíces** basales, delgadas, de 1-1.4 mm de grosor. **Tallos** delgados, tipo caña, erectos, teretes, originados en los nodos apicales del tallo anterior, progresivamente más cortos, 3-6 cm de largo. **Hojas** 3-4, distribuidas en los dos tercios apicales del tallo, articuladas; vainas tubulares, infundibuliformes, diminutamente papilosas, estriadas cuando secas, de 10 mm de largo; lámina subcoriácea, lanceolada a angostamente elíptica, aguda, diminutamente apiculada, con papilas diminutas en los bordes del ápice, 15-22 x 3-4 mm. **Espata** ausente. **Inflorescencia** apical, del tallo maduro, florece una sola vez, corta, nutante, de 1-1.2 cm de largo, racemosa, raquis papiloso, con pedúnculo corto de 3-4 mm de largo. **Brácteas florales** mucho más cortas que el ovario, angostamente triangulares, la base papilosa, acuminadas, de 2.5-5 mm de largo. **Ovario** terete, diminutamente papiloso, de 9-11 mm de largo. **Flores** 3-6, simultáneas, resupinadas, color crema purpúreo pálido, fragancia no registrada. **Sépalos** extendidos, oblongos, agudos, dorsalmente papilosos, 3-nervados; el **dorsal** agudo; los **laterales** aristados, 5.4-5.6 x 1.7-2.0 mm. **Pétalos** entreabiertos, linear oblanceolados, agudos, uninervados, 5 x 1 mm. **Labelo** unido a la columna, cordiforme, apiculado, 3 x 3.7 mm; bicalloso, callos cortos, subglobosos, lateralmente comprimidos, con una quilla longitudinal. **Columna** recta, de 4 mm de largo, ensanchada hacia el ápice. **Clinandrio** corto, entero. **Rostelo** apical, hendido. **Nectario** apenas sobrepasando el perianto, liso, no ornamentado. **Antera** no vista. **Polinios** no vistos. **Cápsula** no vista.

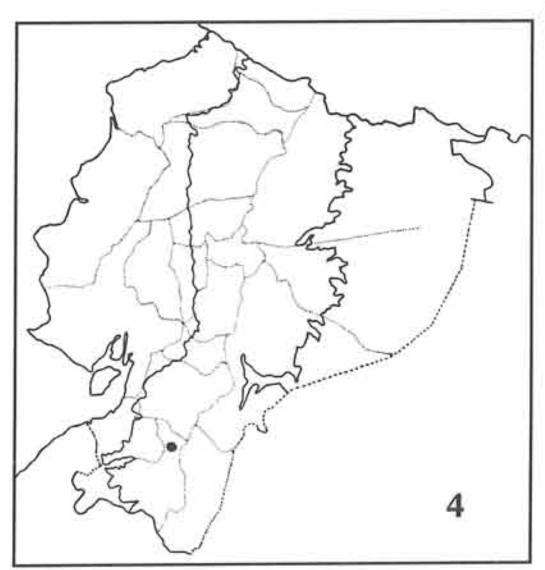
Erect, branching **herb. Stems** thin, cane-like, terete, originating from the apical nodes of the previous stem, progressively shorter. **Leaves** 3-4, sheaths tubular, infundibuliform, minutely papillose, blade subcoriaceous, lanceolate to narrowly elliptic, acute, minutely apiculate, minutely papillose along the apical margins. **Inflorescence** short, nutant, racemose. **Floral bracts** narrowly triangular, acuminate, much shorter than the ovary. **Ovary** terete, minutely papillose. **Flowers** 3-6, simultaneous, resupinate, pale purplish cream. **Sepals** spreading, oblong, acute, dorsally papillose, 3-veined; the **laterals** somewhat aristate. **Petals** partly spreading, linear-oblanceolate, acute, 1-veined. **Lip** united to the column, cordiform, apiculate; bicallose, the calli short, subglobose, laterally compressed, with a central longitudinal keel. **Column** straight, thickened towards the apex. **Clinandrium** short, entire. **Rostellum** apical, slit. **Nectary** shallow, barely surpassing the perianth.

OTHER SPECIMENS: None seen.

DISTRIBUTION AND ECOLOGY: Known only from the type, from southern Ecuador, in elfin forest below the páramos, epiphytic in moss, at 3400 m altitude. Flowering in March.

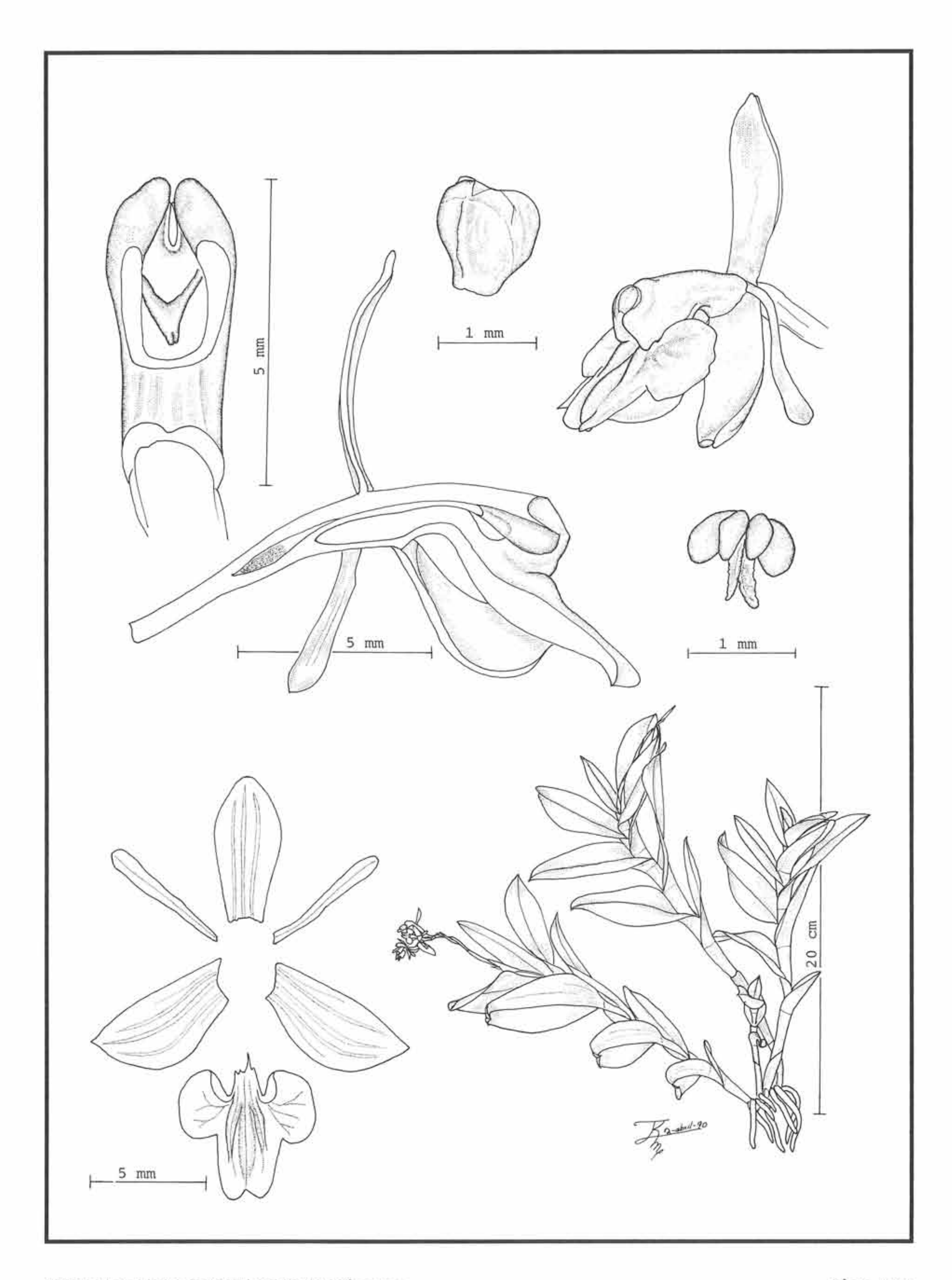
RECOGNITION: *Epidendrum ellemannii* belongs to the soratae complex of the cardiophyllum subgroup of the cardiophyllum group, which is identified by the branching habit, acute leaves and infundibuliform sheaths and the short stems produced from the apical nodes of the previous stems, the species is recognized by the small flowers and the cordiform lip. *Epidendrum cartilaginiflorum* from Bolivia has larger flowers, the sepals 15-16 mm long, and the lip is narrowed beyond the middle, giving it a somewhat 3-lobed shape, the apex rounded, not apiculate. *Epidendrum soratae* has a reniform, emarginate lip, the sepals 6-7 mm long. *Epidendrum cardenasii* Hágsater has a bilobed, emarginate lip 10 x 12 mm, with the sepals 12-13 mm long, the leaves 3.6-5.1 x 0.5-0.7 cm.

CONSERVATION STATUS: DD. Data deficient.



ETYMOLOGY: In honor of Lis Ellemann, a botanical collector, part of the Danish team who has worked out of Loja.

Authors: E. Hágsater & C. H. Dodson **Illustrator: R. Jiménez M.** **Editors: E. Hágsater & L. Sánchez S.**
Herbario AMO Apartado Postal 53-123, 11320 México, D.F., MÉXICO



EPIDENDRUM FORCIPATOIDES Hágsater **Plate 437**

EPIDENDRUM FORCIPATOIDES Hágsater, *sp. nov.*

Type: BRASIL: Bahía; Entre Ouricana e Itororó, pressed in cult. 2 April 1990, ***E. Ferreira da Silva sub E. Hágsater 10229.*** Holotype: HB!(illustration voucher). Clonotypes: 7 May 2000, AMES! AMO! K! Clonotype 3 Sept. 1999, a division as ***E. Hágsater 11622*** UB!

Epidendro forcipato C. Schweinf. similare sed habitu minore, foliis ad marginem laevibus, floribus minoribus, petalis lineari-oblanceolatis rotundatis differens.

Hierba epífita, cespitosa, de 18-56 cm de alto. **Raíces** basales, carnosas, 2.5-3.5 mm de grosor. **Tallos** erectos, ancipitosos, 11-30 x 0.3-0.9 cm. **Hojas** 6-14, distribuidas a casi todo lo largo del tallo, dísticas; vaina tubular, ancipitosa, lisa, las de la base escariosas, 0.9-2.3 x 0.4-0.9 cm; lámina elíptica, ápice redondeado, retuso a cortamente apiculado, coriácea, surcada, dorsalmente prominentemente carinada, margen reflexo, de color verde oscuro a púrpura en el haz y púrpura intenso en el envés, generalmente 2:1, 4-8.5 x 1.3-3.5 cm. **Espata** ausente. **Inflorescencia** apical, racemosa, plurianual, pedúnculo alargado, de 6.5-24 cm de largo, ancipitoso, envuelto por 5-7 brácteas tubulares, ancipitosas, agudas, imbricadas, de color púrpura cuando jóvenes; el racimo corto, raquis 5-15 mm de largo, púrpura con algunas papilas espaciadas; del mismo pedúnculo se producen nuevos racimos cada año de los nodos subapicales, estos racimos con 2-3 brácteas imbricadas en la base, progresivamente más cortas, la basal de 5-15 mm de largo. **Brácteas florales** mucho más cortas que el ovario, triangulares, agudas, 1.5-7.7 mm de largo. **Ovario** terete, engrosado hacia el ápice, 5-10 mm de largo. **Flores** 3-6, simultáneas, sépalos y pétalos pardo ocre verdoso pálido, labelo crema, columna verde en la base y crema hacia el ápice; sin fragancia. **Sépalos** extendidos, obovados, 3-nervados, carnosos, 6.0-6.5 x 2.5-3.0 mm, el dorsal redondeado; los **laterales** agudos, oblicuos. **Pétalos** extendidos, colgados a adpresos a los sépalos laterales, linear obcuneados, redondeados, 1-nervados, membranosos, 5-6 x 0.6-0.7 mm. **Labelo** unido a la columna, trilobado, 4.8-5.5 x 4.0-6.0 mm; bicalloso, los callos laminares, prolongados en carinas, con una carina central que llega al ápice; lóbulos laterales dolabriformes, con el margen algo irregular, 1.5-2.5 x 1.5-3 mm; lóbulo medio subrectangular, emarginado, 2-2.5 x 1.5-2.5 mm. **Columna** corta y gruesa, arqueada, dilatada hacia el ápice, 4.5-5.0 mm. **Clinandrio** reducido, entero. **Antera** ovoide, el ápice truncado, con una quilla roma al frente, 4-locular. **Polinios** 4, obovoides, aplanados lateralmente; caudículas amarillentas, granulosas, más largas que los polinios; viscidio semilíquido. **Rostelo** apical, hendido. **Nectario** penetrando cerca de 1/4 del ovario, inflado, liso. **Lóbulos laterales del estigma** de 1/2 de la cavidad estigmática. **Cápsula** no vista. **Keiki:** se producen plántulas de los nodos apicales del tallo y base del pedúnculo de la inflorescencia en tallos viejos, especialmente si se corta la inflorescencia.

Epiphytic, caespitose **herb. Roots** fleshy, thick. **Stems** ancipitose. **Leaves** distributed nearly throughout the stems, sheaths ancipitose, blade elliptic, rounded to short apiculate, prominently keeled; deep green to purple, generally twice as long as wide. **Inflorescence** apical, pluri-racemose, pluri-annual, peduncle elongate, ancipitose, covered the tubular, ancipitose, imbricating bracts, producing short, few-flowered racemes over the years from the subapical nodes. **Floral bracts** much shorter than the ovary, triangular, acute. **Ovary** thickened towards the apex. **Flowers** 3-6, simultaneous, sepals and petals pale greenish ochre-brown, lip cream-colored, column green at base, cream-colored at apex, not fragrant. **Sepals** spreading, obovate, rounded to acute, 3-veined. **Petals** spreading, hanging or adpressed to lateral sepals, linear-obcuneate, rounded, 1-veined. **Lip** united to the column, 3-lobed, bicallose, the calli continuing into keels, with a central keel reaching the apex; lateral lobes dolabriform, the margin somewhat irregular, midlobe subrectangular, emarginate. **Column** short, thick, arching. **Clinandrium** reduced, entire. **Anther** ovoid, apex truncate, with a low keel in front, 4-celled. **Pollinia** 4, obovoid, laterally compressed, caudicles granulose, longer than the pollinia. **Keiki**: the older stems produce young plantlets from the upper nodes.

OTHER SPECIMENS: BRAZIL: Minas Gerais: Coronel Pacheco, *E.P. Heringer 878,* SP!

DISTRIBUTION AND ECOLOGY: From the eastern edge of the planalto of Brazil, coastal hills of Minas Gerais and southern Bahía. Flowering in November; in cultivation in Mexico from April to September.

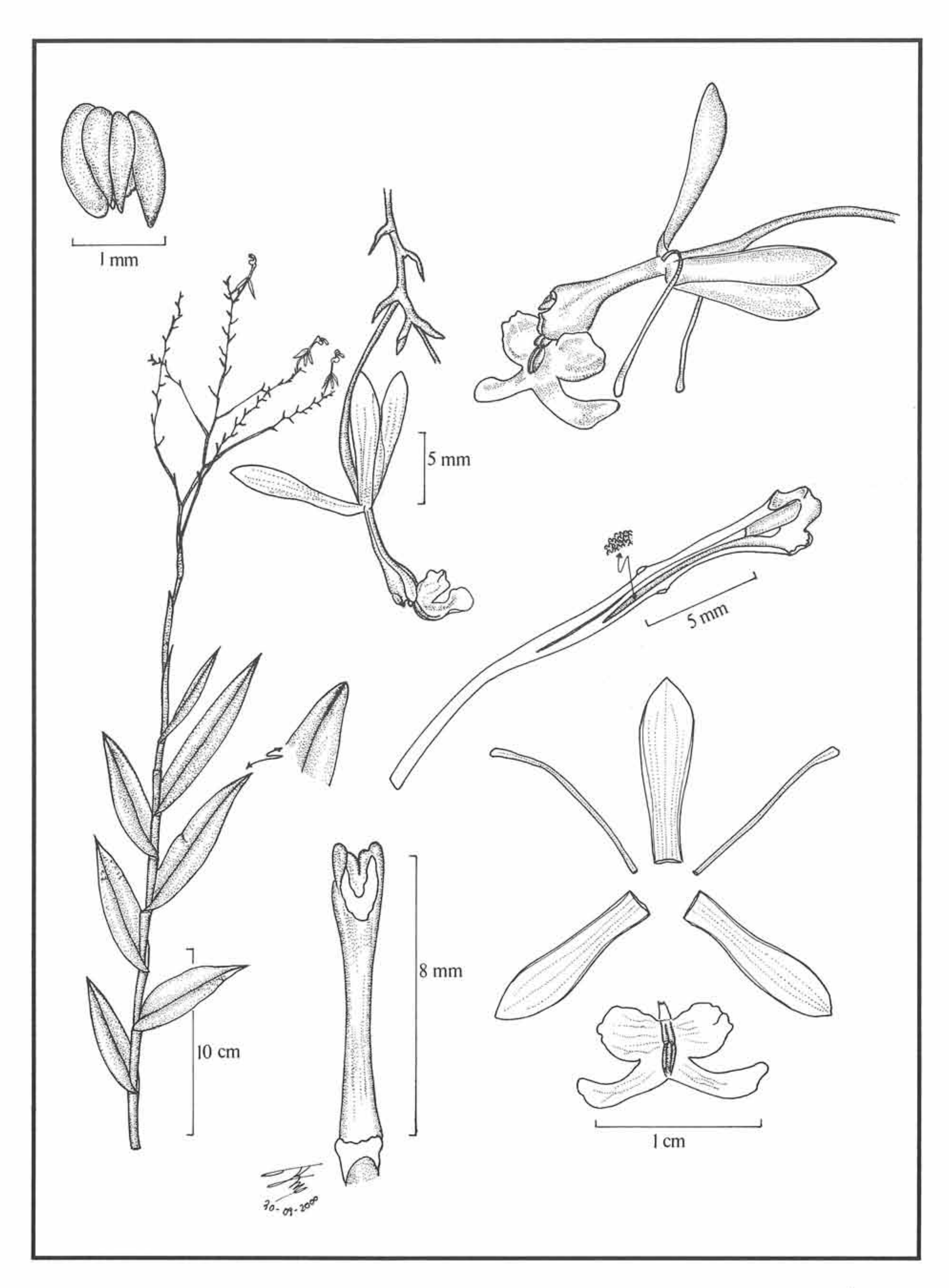
RECOGNITION: *Epidendrum forcipatoides* belongs to the polyanthum group, anceps subgroup, recognized by the numerous short racemes produced on a elongate peduncle over several years, with small fleshy flowers; the species is recognized by the ancipitose stems, the purple leaves with a plain, non-undulate margin, pale greenish ochre-brown and cream-colored flowers, few to a raceme, simultaneous; the lip has two elongate calli prolonged into keels and a central keel reaching the emarginate apex of the rectangular midlobe. *Epidendrum forcipatum* C. Schweinf. (syn.: *E. pseudoanceps* D.E. Benn. & Christenson) has larger flowers (sepals 10-11 mm long), prominently crisped-undulate leaves, and acute petals; it is known from the upper Amazon basin in Peru. *E. polyanthum* has a more elongate raceme, with the midlobe of the lip also subrectangular, but the plants and flowers are much larger, green, the flowers orange, and the inflorescence, after the first flowering, produces numerous racemes from the many nodes of the peduncle. It is somewhat similar to *E. anceps*, which has purplish brown flowers and 3-lobed lip without calli, the raceme subcorymbose. *Epidendrum galeottianum* A. Richard & Galeotti from Mexico and northern Central America has purple leaves and flowers greenish brown with a dark purple, 3-lobed, ecallose lip. *Epidendrum cearense* Barb. Rodr. and *E. schreineri* Barb. Rodr. have terete stems and somewhat larger flowers.

CONSERVATION STATUS: DD. Data deficient.

ETYMOLOGY. From the Latin *forceps*, a kind of pincers, and *oides*, resembling, in reference to the close similarity to *E. forcipatum*.

6

Authors: E. Hágsater **Illustrator: R. Jiménez M.** **Editors: E. Hágsater & L. Sánchez S.**
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EPIDENDRUM FOSBERGII Hágsater & Dodson

Plate 438

EPIDENDRUM FOSBERGII Hágsater et Dodson, *sp. nov.*

Type: ECUADOR: Cañar: east side of valley of Río Monay, 40 km ENE of Azogues, 2°33'S 78°31', 3 feb 1945, ***F. R. Fosberg & F. Prieto 22700.*** Holotype: NY! (illustration voucher). Isotype: AMES!

Epidendro paniculato Ruiz & Pavón affine sed floribus aliquanto minoribus successivis, labelli lobulis apicalibus latioribus et elongatis.

Hierba epífita, de más de 50 cm de alto. **Raíces** basales, carnosas, gruesas, ca. 2 mm de grosor. **Tallos** sencillos, tipo caña, teretes, rectos, 25-30 x 0.19-0.55 cm. **Hojas** 7-10, distribuidas a lo largo del tallo, alternas; vaina tubular, lisa, 14-32 x 3-5.9 mm; lámina foliar articulada, angostamente elíptica, acuminada, margen entero, lisa, 4.3-12.5 x 1.3-2.7 cm. **Espata** ausente. **Inflorescencia** apical, del crecimiento maduro, florece una sola vez, paniculada, erecta, 19-29 cm de largo; pedúnculo 5.5-10.5 cm de largo, cubierto casi en su totalidad por 2-3 brácteas, acuminadas, conduplicadas, de 2.5-5.5 cm de largo, semejantes a las brácteas de las ramas pero mayores. **Flores** 38-84, sucesivas, abiertas dos a cuatro por rama a la vez, resupinadas, sépalos verde pardusco, pétalos blanco rosado, el labelo con puntos púrpuras en el centro; sin datos de fragancia. **Bráctea floral** mucho más corta que el ovario, triangular, acuminada, 2-8.2 mm de largo. **Ovario** no ornamentado, terete, ligeramente engrosado en la mitad apical, 14-23 mm de largo. **Sépalos** reflexos, glabros, libres, angostamente espatulados, obtusos, margen extendido y entero, 3-nervados, 11 x 3.1 mm. **Pétalos** reflexos, ligeramente falcados, filiformes, ápice ligeramente dilatado, obtuso, margen extendido y entero, 1-nervados, 11 x 0.5 mm. **Labelo** unido a la columna, trilobado, cordado en la base, ligeramente más ancho entre los lóbulos apicales que entre los laterales, 6 x 11 mm; bicalloso, los callos paralelos, alargados, subagudos; disco tricarinado, las carinas prominentes, romas, la central llegando hasta el seno apical; lóbulos laterales suborbiculares, margen apical irregular, 3.7 x 3.1 mm; lóbulo medio bifurcado, ligeramente divaricado, los lobos oblongos, algo falcados, ápice redondeado, 5.1-5.7 x 1.4-1.7 mm. **Columna** delgada, recta, 8 mm de largo incluyendo el clinandrio. **Clinandrio** reducido, margen entero. **Antera** no vista. **Polinios** 4, tipo ala de pájaro, lateralmente fuertemente comprimidos, desiguales, los interiores menores. **Rostelo** apical, hendido. **Lóbulos laterales del estigma** de ½ del largo de la cavidad estigmática. **Nectario** apenas penetrando 1/6 del ovario, papiloso. **Cápsula** no vista.

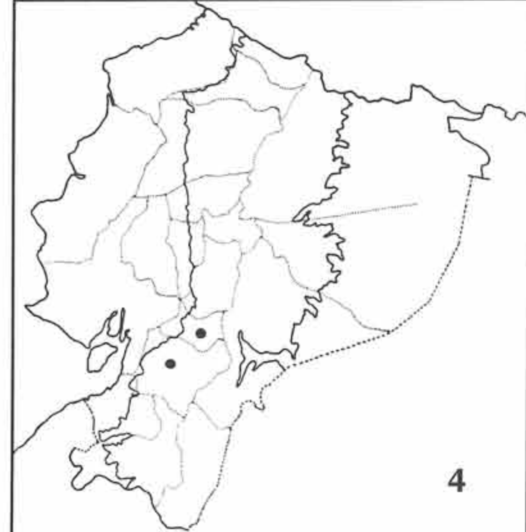
Epiphytic, caespitose **herb.** **Stems** simple, cane-like, terete. **Leaves** distributed throughout the stem, sheath tubular, blade narrowly elliptic, acuminate. **Spathe** absent. **Inflorescence** apical, paniculate, erect, the peduncle nearly totally covered by acuminate, conduplicate sheaths. **Flowers** successive, two to four open per branch at one time, resupinate, sepals bronze-green, petals pinkish white, lip with purple spot in center. **Floral bracts** much shorter than the ovary, triangular, acuminate. **Ovary** terete, unornamented, slightly thickened towards the apical half. **Sepals** reflexed, narrowly spathulate, obtuse, glabrous, 3-veined. **Petals** filiform, obtuse, 1-veined. **Lip** three-lobed, cordate, somewhat wider between the apical lobes, bicallose, calli parallel, long, subacute, disc three-carinate, lateral lobes suborbicular, margin somewhat irregular, midlobe bifurcate, somewhat divaricate, the lobes oblong, falcate, apex rounded. **Column** thin, straight. **Clinandrium** reduced, margin entire. **Rostellum** slit. **Pollinia** 4, bird-wing type, strongly laterally compressed, unequal, the inner pair smaller. **Nectary** penetrating one sixth of the ovary, papillose.

OTHER SPECIMENS: Azuay: Cola de San Pablo, *Dodson et al. 15467B*, RPSC!

DISTRIBUTION AND ECOLOGY: Epiphytic in wet forests of southern Ecuador on the eastern side of the Andes at around 2300-2600 m altitude. Flowering November to February.

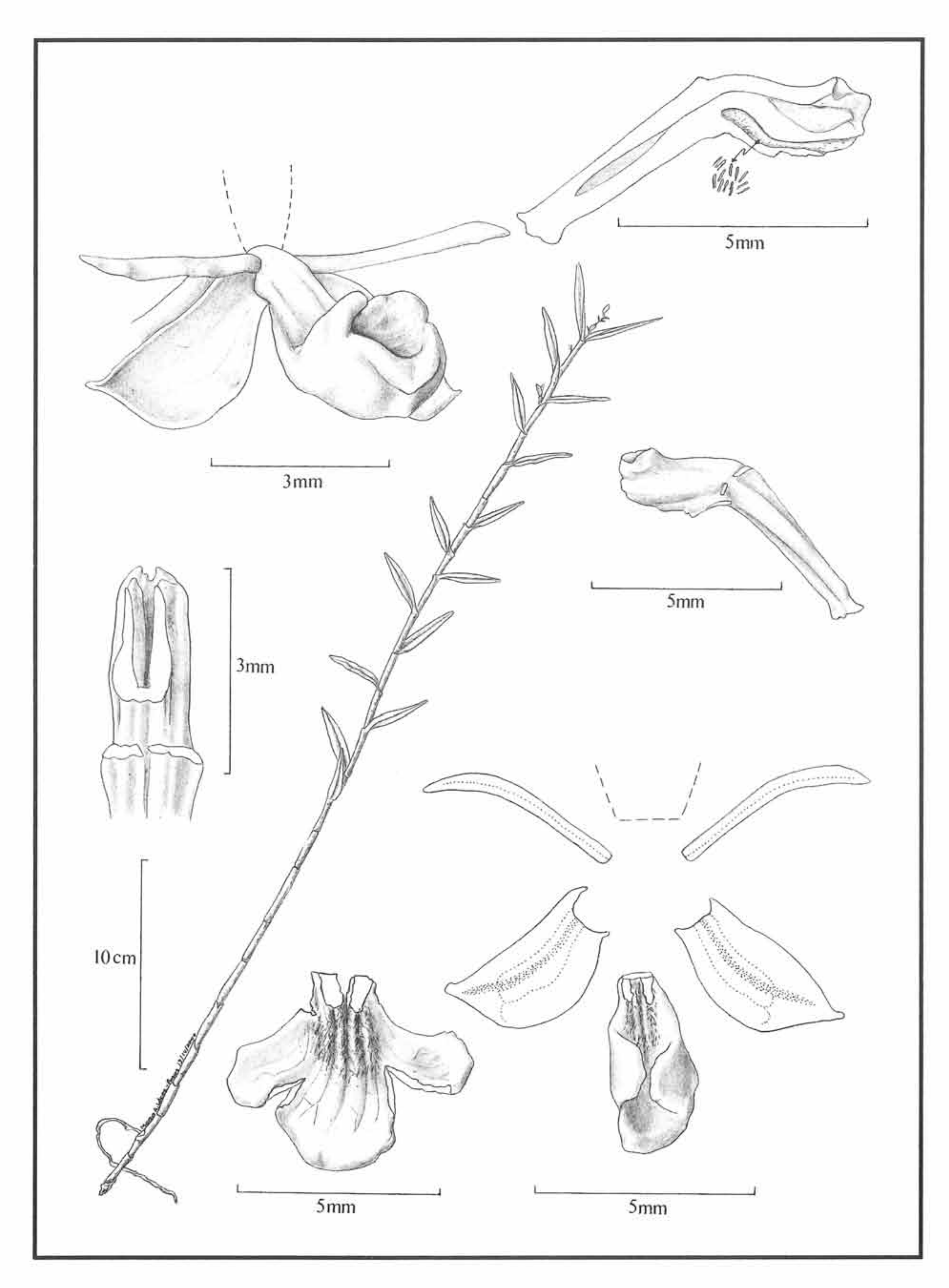
RECOGNITION: *Epidendrum fosbergii* belongs to the paniculatum group and is recognized by the successive flowers, long, thin column, reduced clinandrium, green flowers, lip with a purple blotch on and around the disc, sepals 11 mm long, the apical lobes of the lip oblong and curved, apex rounded. It is similar to *E. paniculatum Ruiz & Pávon* (fide Garay, F) in size, but that species has slightly longer sepals (13 mm), simultaneous flowers and the apical lobes of the lip triangular and curved, more acute.





CONSERVATION STATUS: DD. Data deficient.

ETYMOLOGY: In honor of the collector, Francis Raymond Fosberg, who has collected extensively in the Neotropics between 1942 and 1981 and deposited numerous specimens at the US National Herbarium, Emeritus, 1908-1993. Taxonomy and ecology of tropical island vascular plants; Rubiaceae; Nyctaginaceae.



EPIDENDRUM GOLONDRINENSE Hágsater & Dodson

Plate 439

EPIDENDRUM GOLONDRINENSE Hágsater et Dodson, *sp nov.*

Type: ECUADOR: Carchi: Cerro Golondrinas area, access via Chamorro property above El Carmen, which is above Hualchán; flat hilltop before steep ridge crest approach to peak 2840, 00°50´N 78°12', 2690 m, 24 Jul 1993, ***Brad Boyle & P. Hibbs 2325.*** Holotype: MO! (illustration voucher).

Epidendro grayi Hágsater & Dodson simile sed foliis minoribus, petalis brevioribus angustis acutisque, labelli lobulis lateralibus parvis lobulo medio triplo minoribus differt.

Hierba epífita, erecta, ramificada, de más de 48 cm de alto. **Raíces** de los entrenudos basales, delgadas, 0.5 mm de grosor. **Tallos** ramificados en la parte superior, tipo caña, teretes en la base, ancipitosos hacia la parte apical, el principal de más de 48 x 0.2 cm; los secundarios más cortos. **Hojas** numerosas, distribuidas a lo largo de la mitad apical del tallo; vaina tubular, finamente estriada, rugosa, 1-2 cm de largo; lámina oblongo lanceolada, desigualmente bilobada, margen irregularmente denticulado, 2.7-3.9 x 0.3 cm. **Espata** ausente. **Inflorescencia** apical, paniculada, dística, 2 cm de largo, pedúnculo corto, filiforme, raquis terete, zigzag. **Brácteas florales** más largas que el ovario, abrazadoras, triangulares, acuminadas, 2-3 mm de largo. **Ovario** terete, liso, no inflado, 1 mm de largo. **Flores** 13, sucesivas, no resupinadas, verdes, fragancia no registrada. **Sépalos** extendidos, elípticos, agudos, oblicuos, margen entero, extendido, 3-nervados, la nervadura central engrosada, 3.8 X 2 mm **Pétalos** extendidos, arqueados, lineares, agudos, margen entero, 1-nervados, 4.5 x 0.3 mm. **Labelo** unido a la columna, involuto, trilobado al extenderse, abrazando a la columna en posición natural, pubescente en la parte basal, margen entero, 5 X 6 mm, ecalloso, disco con 3 quillas carnosas desvaneciéndose hacia el ápice; lóbulos laterales semiorbiculares, pequeños, de 1/3 del tamaño del lóbulo medio; lóbulo medio semiorbicular, el ápice ligeramente retuso en posición natural. **Columna** deflexa con respecto al ovario, el ápice vuelto hacia arriba, 3 mm de largo. **Clinandrio** reducido, entero. **Antera** no vista. **Polinios** no vistos. **Rostelo** subapical, hendido. **Lóbulos laterales del estigma** de 1/2 de largo de la cavidad estigmática. **Nectario** sin traspasar el perianto, pubescente. **Cápsula** no vista.

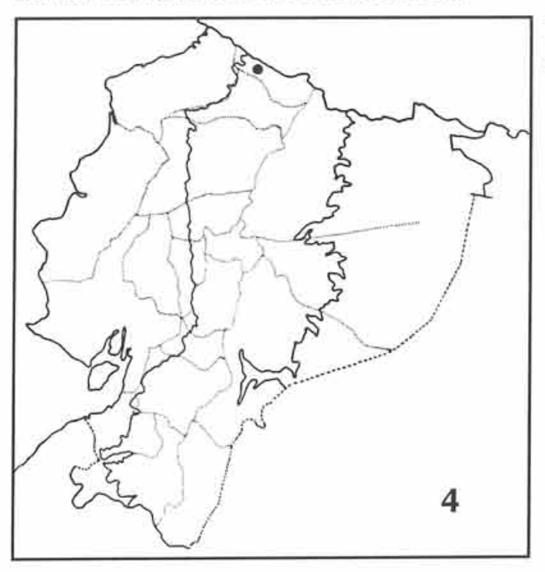
Epiphytic, erect, branching **herb. Roots** basal. **Stems** cane-like, terete at base, ancipitous above, branching above. **Leaves** numerous, distributed throughout the upper half of the stem; sheaths tubular, finely striated and rugose; blade oblong-lanceolate, unequally bilobed. **Inflorescence** apical, paniculate, distichous, peduncle short, filiform, rachis zigzag. **Floral bracts** longer than the ovary, triangular acuminate. **Ovary** terete. **Flowers** 13, successive, non-resupinate, green. **Sepals** spreading, elliptic, acute, 3-veined, the mid-vein thickened. **Petals** spreading, arched, linear, acute, 1-veined. **Lip** united to the column, involute, embracing the column, 3-lobed, disc pubescent with 3 keels, ecallose; lobes semiorbicular, the laterals about 1/3 the size of the midlobe which is somewhat retuse in natural position. **Column** deflexed in relation to the ovary, straight, the apex upturned. **Clinandrium** reduced, entire. **Nectary** short, not penetrating behind the perianth, pubescent.

OTHER SPECIMENS: None seen.

RECOGNITION: *Epidendrum golondrinense* can be placed in the pilcuense group, recognized by the short peduncle of the inflorescence, and the 3-lobed lip, with the inflorescence erect-ascending; the petals are 4.5 mm long, linear and acute, the lip shallow 3-lobed, small and semiorbicular, the midlobe about 3 times larger and rounded, the disc pubescent; the leaves 3-4 cm long. It is similar to *E. grayi* Hágsater & Dodson, which has larger leaves (4-6.3 cm long), wider (1 mm), obtuse petals, and larger, wider lateral lobes of the lip which has a triangular, pointed midlobe. *Epidendrum pilcuense* Hágsater has even larger leaves (9-12 cm long), and pilose lateral lobes of the lip, the petals longer (5 x 0.8 mm) and the column forming an acute angle with the ovary.

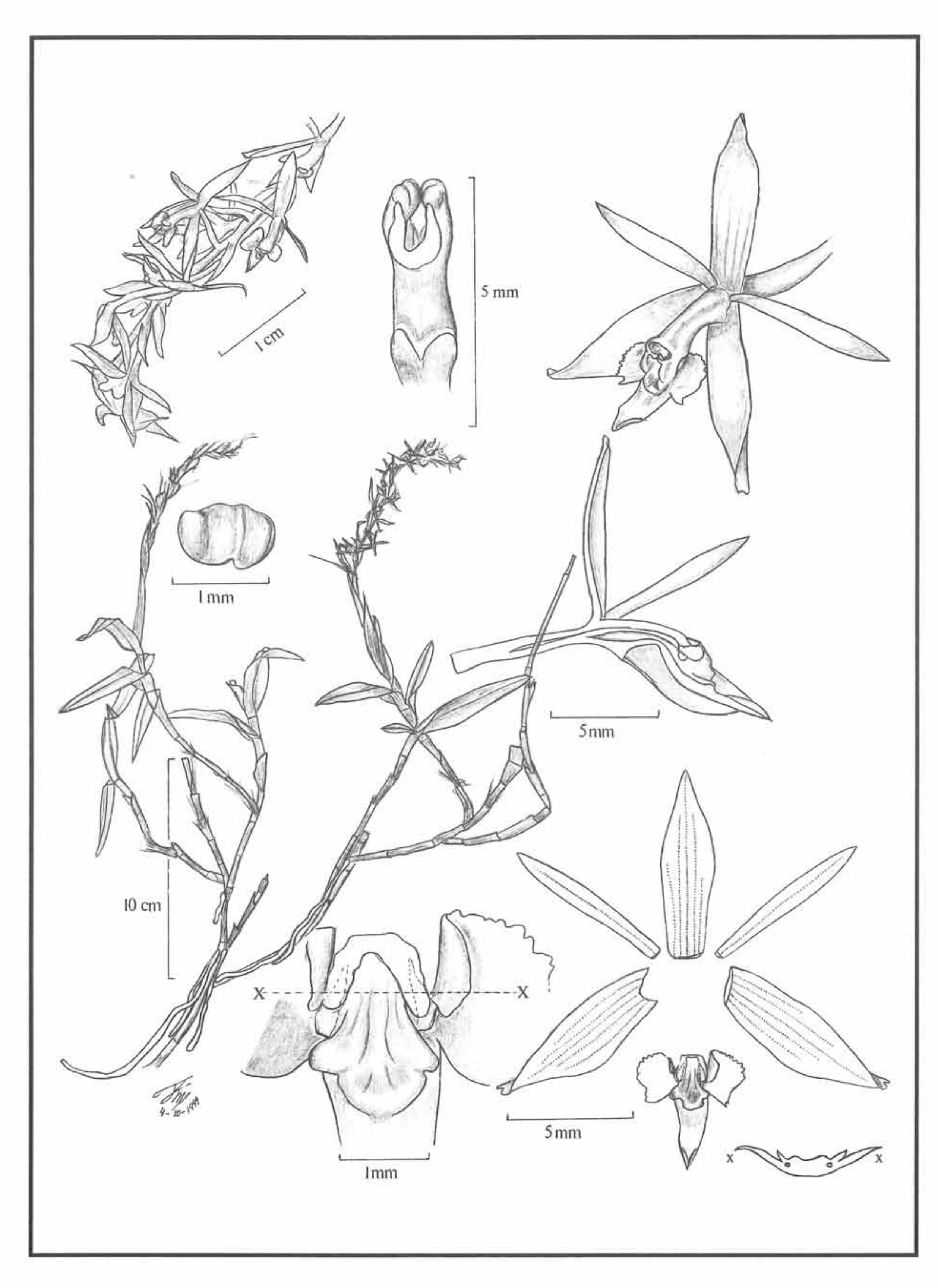
DISTRIBUTION AND ECOLOGY: ECUADOR: Carchi: Known only from the type, Cerro Golondrinas, epiphyte, montane forest festooned with moss, 2690 m. Flowering in July.

CONSERVATION STATUS: DD. Data deficient.



ETYMOLOGY: In reference to the type locality, the Cerro Golondrinas, or Swallow Hill.

Authors: E. Hágsater & C. H. Dodson **Illustrator: M. López R.** **Editors: E. Hágsater & L. Sánchez S.**
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EPIDENDRUM GRACILIBRACTEATUM Hágsater & Dodson **Plate 440**

EPIDENDRUM GRACILIBRACTEATUM Hágsater *et* Dodson, *sp. nov.*

Type: ECUADOR: Loja: Eastern side of pass Yangana to Valladolid, 2800-3000 m, ***A. Hirtz, C. & J. Luer, & W. Flores 2299.*** Holotype: RPSC! (illustration voucher). Isotype: Flower in spirit, AMO!

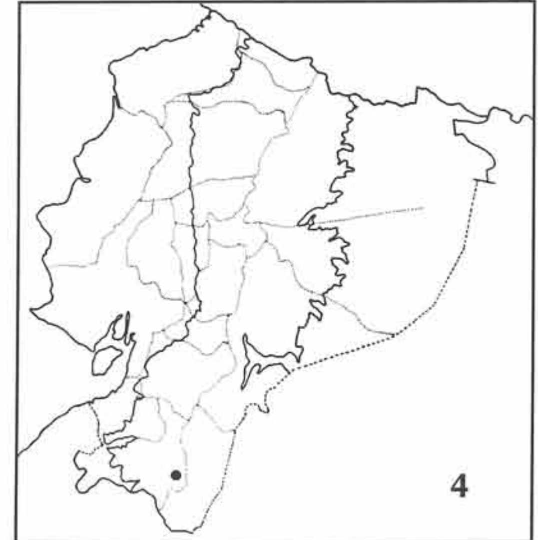
Epidendro pergracili Schltr. similare sed foliis brevioribus latioribusque, floribus minoribus, bracteis majoribus usque ovarii longitudine triplo longioribus recedit.

Hierba epífita, rastrera, de 30-35 cm de alto. **Raíces** basales, delgadas, de 1 a 2 mm de grosor. **Tallos** tipo caña, rectos, teretes abajo, lateralmente comprimidos arriba, originados del 3-4 internodo del tallo anterior, 7-12 x 2.5 cm. **Hojas** 3-4, distribuidas en el tercio apical del tallo; vainas comprimidas, estriadas cuando secas, las inferiores no foliosas, de 1.1-1.8 cm de largo; lámina lanceolada, aguda, con una quilla dorsal prominente, desiguales, progresivamente más largas, 1.5-6 x 0.4-1.0 cm. **Espatas** 2, ancipitosas, agudas, ocultando el pedúnculo, 4.3-4.5 x 0.3-0.4 cm. **Inflorescencia** apical, del crecimiento maduro, racemosa, arqueada, de 12 cm de largo, pedúnculo de 5 cm de largo. **Brácteas florales** linear triangulares, acuminadas, más largas que el ovario, progresivamente más pequeñas hacia el ápice de la inflorescencia, 7-20 x 1 mm. **Ovario** terete, delgado, 6-7 mm de largo. **Flores** 25-30, pequeñas, el labelo orientado hacia el ápice del raquis, simultáneas, abriendo progresivamente desde la base, sépalos y pétalos rosado amarillos, labelo amarillo, antera roja. **Sépalos** angostamente elípticos, agudos, 5-nervados, el **dorsal** extendido, 7.5 x 2 mm; los **laterales** entreabiertos, ligeramente oblicuos, con una quilla dorsal prominente en el ápice, aristados, 7.5-7.8 x 2 mm. **Pétalos** extendidos, linear elípticos, agudos, 1-nervados, 7 x 0.9 mm. **Labelo** unido a la columna, trilobado, cordado, 4.6 x 4.3 mm; lóbulos laterales semiovados, al frente formando un ángulo casi recto con el margen externo eroso, el frontal entero 1.5 x 2.3 mm; lóbulo medio angostamente triangular, agudo, los márgenes apicales engrosados, 2.8 x 1.2 mm; callo formando por una plataforma trilobulada, ligeramente estriado; con dos pequeños lóbulos a ambos lados del callo los cuales son la entrada de un cunículo cónico a cada lado del callo. **Columna** delgada, ligeramente arqueada, 3 mm de largo. **Clinandrio** reducido, entero. **Rostelo** apical, hendido. **Lóbulos laterales del estigma** pequeños, ocupando 1/4 de la cavidad estigmática. **Nectario** poco profundo, llegando hasta el perianto, ligeramente ensanchado hacia la parte interior, no ornamentado. **Antera** reniforme, con una quilla baja al frente, 4 locular. **Polinios** 4. **Cápsula** no vista.

Repent, epiphytic **herb. Roots** few, fleshy, at the base of each stem. **Stems** terete below, laterally compressed above, produced from the 3-4th internode, near the middle of the previous stem. **Leaves** 4, distributed along the apical third of the stem, lanceolate, acute, unequal, progressively larger. **Spathes** 2, ancipitose, acute, covering the peduncle. **Inflorescence** apical, from the mature growth, racemose, arching. **Floral bracts,** linear-triangular, acuminate, from much longer than to about as long as the ovary. **Ovary** terete, thin. **Flowers** 25-30, small, the lip oriented towards the apex of the rachis, simultaneous, opening from the base of the inflorescence, sepals and petals pinkish yellow, lip yellow, anther red. **Sepals** spreading, narrowly elliptic, acute, 5-veined, the laterals aristate. **Petals** spreading, linear-elliptic, acute, 1-veined. **Lip** united to the column, 3-lobed, cordate, the callus a 3-lobed platform, somewhat striated, with a cuniculus on each side; lateral lobes semiovate, forming a subrectangular angle in front, the outer margin erose, the front margin entire, apical lobe triangular, acute, the apical margins thickened. **Column** thin, slightly arched. **Clinandrium** reduced, entire. **Nectary** penetrating as far as the perianth, unornamented. **Pollinia** 4.

OTHER SPECIMENS: None seen.

RECOGNITION: *Epidendrum gracilibracteatum* belongs to the alpicolum group, pergracile subgroup, and is distinguished by the repent habit, simultaneous flowers with large, prominent floral bracts, lateral lobes of the lip semiovate, forming a subrectangular angle in front, the outer margin erose, the front margin entire, apical lobe triangular, acute, and the apical margins thickened. *Epidendrum pergracile* has longer leaves, larger flowers, a more elongate inflorescence, and the floral bracts only up to slightly longer than the ovary. *Epidendrum rhodoides* Hágsater & Dodson has a lax-flowered inflorescence, the midlobe of the lip subquadrate; the petals are 5-veined, about as wide as the dorsal sepal and about 10 mm long, floral bracts shorter than the ovary. *Epidendrum vidal-senegei* Hágsater & Dodson has larger flowers, the sepals 13-16 mm long, and the petals linear, half as wide as the sepals, and floral bracts about as long as the ovary.

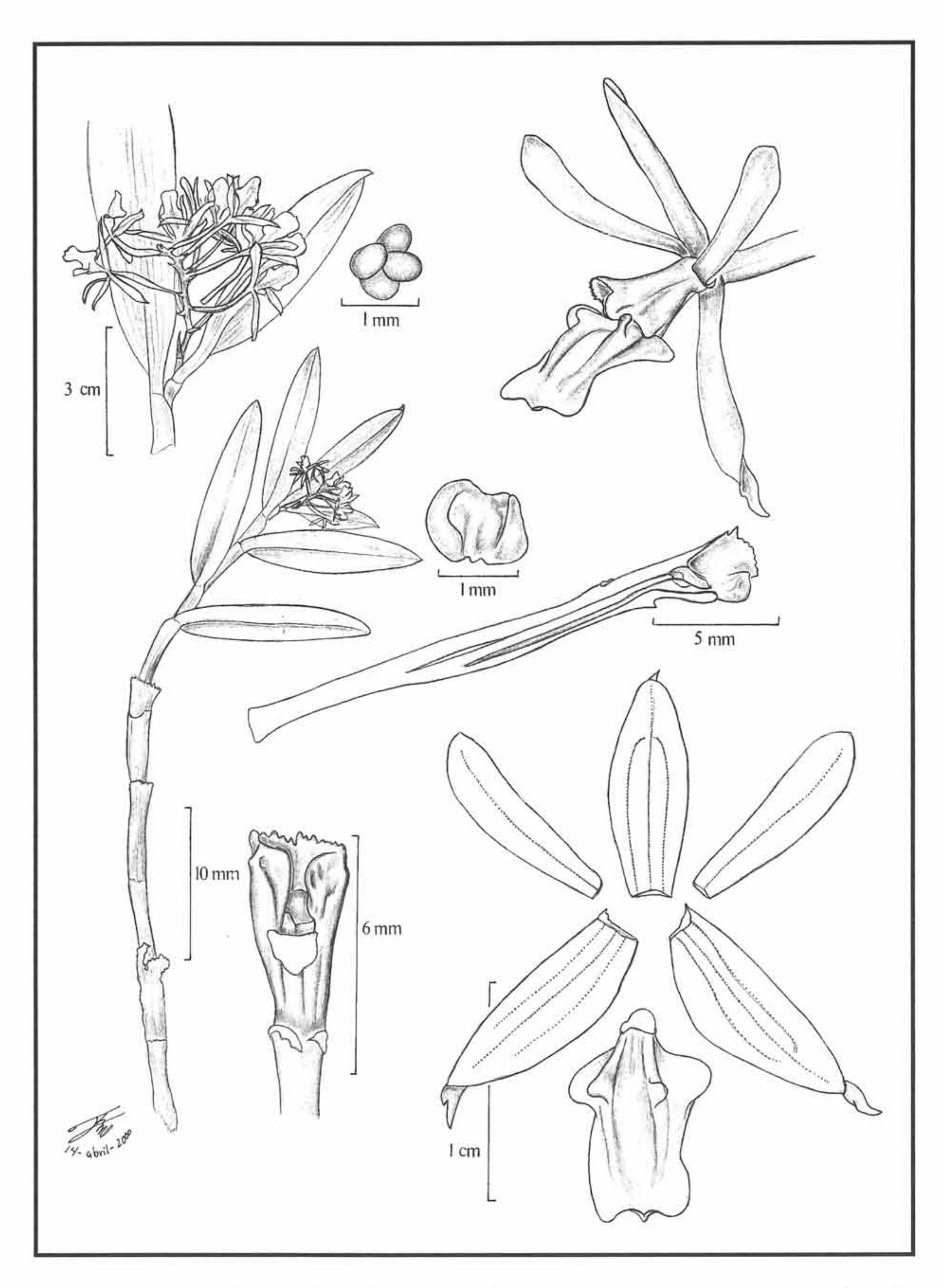


DISTRIBUTION AND ECOLOGY: ECUADOR: in the mountains around Loja, at around 2800-3000 m altitude. Flowering in June.

CONSERVATION STATUS: DD. Data deficient.

ETYMOLOGY: From the Latin *gracile*, graceful and *bractea*, bract, in reference to the large floral bracts which distinguish this species.

Authors: E. Hágsater & C. H. Dodson **Illustrator: R. Jiménez M.** **Editors: E. Hágsater & L. Sánchez S.**
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EPIDENDRUM GUAGRA-URCUËNSE Hágsater & Dodson

Plate 441

EPIDENDRUM GUAGRA-URCUËNSE Hágsater et Dodson, *sp. nov.*

Type: ECUADOR: Napo: Slopes of Guagra-Urcu, on the loma above upper Río Borja, SE exposed montane forest, 2600 m, 0°28'S, 77°44'W, 25 Sept. 1980, ***L. Holm-Nielsen, J. Jaramillo, F. Coello & E. Azanza 27006.*** Holotype: AAU! (illustration voucher).

Epidendro cernuo Kunth simile sed inflorescentia brevi pauciflora, labello pandurato, suo lobulo medio obcuneato ad apicem trilobato discrepans.

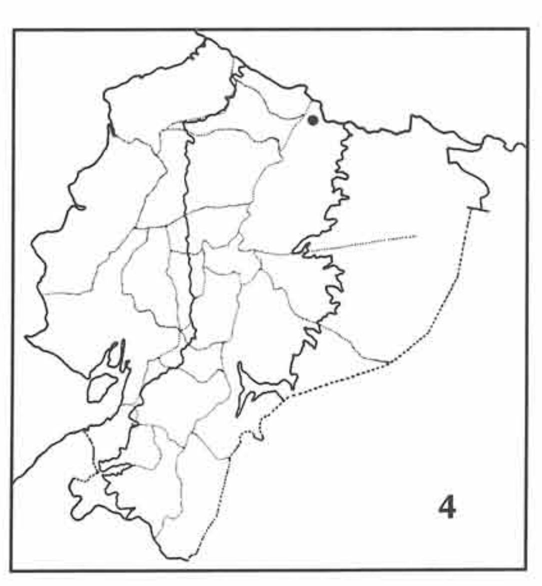
Hierba erecta, de más de 65 cm de alto. **Raíces** no vistas. **Tallos** ramificados, tipo caña, lateralmente aplanados; 53 x 0.7-1.2 cm. **Hojas** numerosas, distribuidas a lo largo de los tallos, alternas; vaina tubular, estriada, lateralmente aplanada, ancipitosa, 1.3-4.5 x 0.7-1.3 cm; lámina lanceolada a elíptica, desigualmente bilobada, retusa, margen entero, subcoriácea; 6-13.5 x 1.5-2.6 cm. **Espata** ausente. **Inflorescencia** apical, racemosa, arqueada, corta, semiesférica, del tallo principal, florece una sola vez, 6.5 cm de largo; pedúnculo reducido, terete, no ornamentado, provisto de una bráctea corta en la parte media. **Brácteas florales** mucho más cortas que el ovario, triangulares, agudas, 1.5 mm de largo. **Flores** 12, simultáneas, resupinadas, color amarillento, fragancia no registrada. **Ovario** terete, ligeramente inflado en la mitad apical, no ornamentado, 11-20 mm de largo. **Sépalos** extendidos, libres, angostamente elípticos, agudos, aristados, margen entero, carnosos, 3-nervados, con una quilla dorsal, el **dorsal** 8.5-10 x 3.7 mm, los **laterales** oblicuos, 9-13 x 4 mm. **Pétalos** extendidos, libres, oblongo oblanceolados, ápice redondeado, margen entero, 1-nervados, 9-10 x 2.4 mm. **Labelo** unido a la columna, trilobado, pandurado, base cuneada, 7-8 x 6-7 mm; bicalloso, los callos prominentes, laminares; disco tricarinado, margen entero; lóbulos pequeños, triangular redondeados, lóbulo medio obcuneado subrectangular, ápice trilobado. **Columna** recta, 5 mm de largo. **Clinandrio** prominente, en forma de embudo, eroso fimbriado. **Antera** reniforme, 4-locular. **Polinios** 4, obovoides, subiguales. **Rostelo** hacia la mitad de la columna, hendido. **Lóbulos laterales del estigma** de la mitad del largo de la cavidad estigmática. **Nectario** profundo, penetrando la mitad del ovario, no ornamentado. **Cápsula** no vista.

Erect **herb. Stems** cane-like, erect, laterally compressed, ancipitose. **Leaves** numerous; sheaths tubular, ancipitose, striated; blade lanceolate to elliptic, unequally bilobed, retuse. **Inflorescence** apical, racemose, arching, short, semispherical, flowering only once. **Floral bracts** much shorter than the ovary, triangular, acute. **Flowers** 12, simultaneous, resupinate, yellowish. **Sepals** spreading, free, narrowly elliptic, aristate, fleshy, 3-veined. **Petals** oblong-oblanceolate, rounded, 1-veined, margin entire. **Lip** 3-lobed, base cuneate, bicallose, calli laminar, disc low tricarinate, margin entire; lateral lobes small, triangular-rounded, midlobe obcuneate-subrectangular, apex 3-lobed. **Clinandrium** prominent, funnel- shaped, erose-fimbriate. **Nectary** penetrating half the ovary.

OTHER SPECIMENS: None seen.

DISTRIBUTION AND ECOLOGY: Known only from northern Ecuador, from the slopes of the Guagra-Urcu, on the eastern side of the eastern Andes, at 2600 m altitude. In montane forest. Flowering in September.

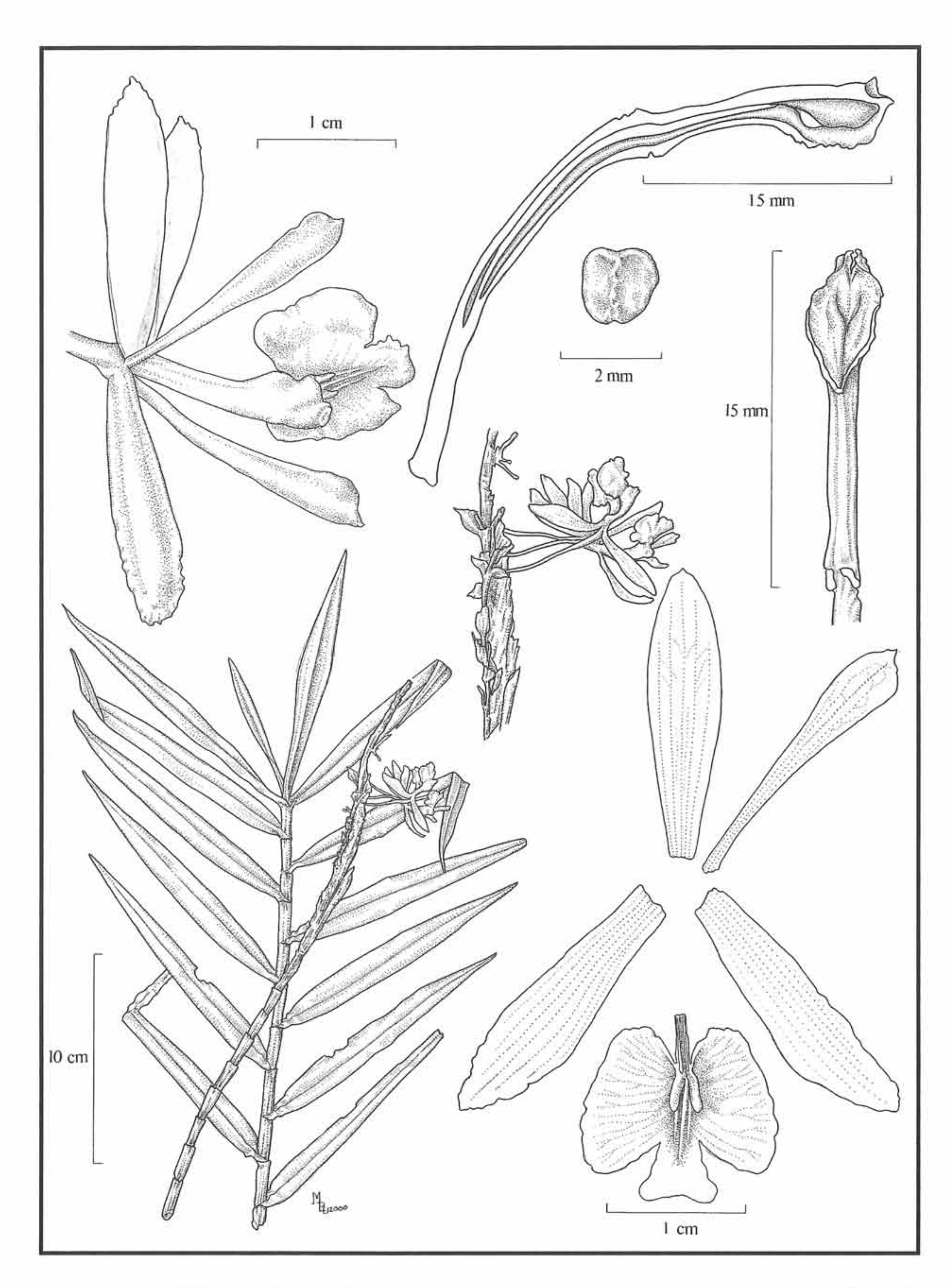
RECOGNITION: *Epidendrum guagra-urcuënse* belongs to the cernuum group and subgroup, and is recognized by the branching stems, the bilobed leaves, 3-lobed pandurate lip, the small triangular-rounded lateral lobes, the midlobe obcuneate-rectangular, the apex 3-lobed, the clinandrium prominent, funnel-shaped and erose-fimbriate, the inflorescence is short and few-flowered. *Epidendrum cernuum* Kunth also has aristate sepals, but many more, delicate, small flowers (sepals 6-13 mm), giving the inflorescence a fox-tail appearance, the lip is 3-lobed but not pandurate, with the midlobe cuneate and apiculate. *Epidendrum brevicernuum* Hágsater & Dodson has petals 3-veined and clinandrium short, entire, and the lobes of the lip subequal. *Epidendrum pseudocernuum* Carnevali & I. Ramírez has small, falcate lateral lobes of the lip.



CONSERVATION AND STATUS. DD. Data deficient.

ETIMOLOGY: In reference to the Guagra Urcu, at the base of which this species was collected.

Authors: E. Hágsater & C. H. Dodson **Illustrator: R. Jiménez M.** **Editors: E. Hágsater & L. Sánchez S.**
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EPIDENDRUM GUALAQUICENSE Hágsater & Dodson **Plate 442**

EPIDENDRUM GUALAQUICENSE Hágsater et Dodson, *sp. nov.*

Type: ECUADOR: Morona-Santiago, 7-8 km N of Gualaquiza on road to Indanza, 1450 m, 16 Apr. 1985. ***G. Harling & L. Andersson 24174.*** Holtype: GB! (illustration voucher).

Epidendro harrisoniae Hook. simile sed labelli lobulis lateralibus dolabriformibus lobulo medio majoribus.

Hierba epífita, erecta, de mucho más de 30 cm de alto. **Raíces** no vistas. **Tallos** sencillos, tipo caña, teretes, rectos, 0.4-0.57 cm de grosor. **Hojas** más de 14, distribuidas a lo largo del tallo, semejantes entre sí, alternas, equidistantes; vaina tubular, ligeramente estriada cuando seca, 17-23 mm de largo; lámina linear lanceolada, acuminada, con una quilla dorsal, margen entero, 15-16.5 x 1.4-1.8 cm. **Espata** ausente. **Inflorescencia** apical, racemosa, suberecta, produce nuevos racimos con el tiempo, 16 cm de largo; pedúnculo totalmente cubierto por numerosas brácteas espatáceas conduplicadas, imbricadas, fibrosas con el tiempo, ca. 40 mm de largo. **Brácteas florales** mucho más cortas que el ovario, ovadas, acuminadas, abrazadoras, 6-7 mm de largo. **Ovario** terete, delgado, no inflado, no ornamentado, 25 mm de largo. **Flores** 7-9 o más, simultáneas, sépalos y pétalos verdes, el labelo blanco; sin datos de fragancia. **Sépalos** extendidos, libres, oblanceolados, obtusos, margen sinuado en el ápice, 5-nervados, 21 x 5.3 mm. **Pétalos** extendidos, libres, angostamente oblanceolado espatulados, muy angostos en la base, ápice redondeado, diminutamente apiculados, margen entero, 3-nervados, las nervaduras laterales ramificadas hacia la parte media apical, 21 x 3.6 mm. **Labelo** unido a la columna, trilobado, profundamente cordado en la base, margen entero, 12.6 x 12.6 mm; bicalloso, los callos delgados, alargados hasta la parte media de los lóbulos laterales; disco provisto de 3 venas engrosadas; lóbulos laterales mucho más grandes que el lóbulo medio, dolabriformes, redondeados, 6 x 9 mm; lóbulo medio obcuneado, ápice bilobado, las esquinas redondeados, 3.6 x 5 mm. **Columna** recta, delgada, 15 mm de largo. **Clinandrio** corto, entero. **Antera** angostamente subreniforme, con una quilla al frente, baja, angosta. **Polinios** no vistos. **Rostelo** apical hendido. **Lóbulos laterales del estigma** de 1/3 del largo de la cavidad estigmática. **Nectario** penetrando 1/2 del largo del ovario, no inflado, no ornamentado. **Cápsula** no vista.

Epiphytic **herb. Stems** cane-like, terete, simple, straight. **Leaves** numerous, similar, sheath tubular, blade linear-lanceolate, acuminate, margin entire. **Inflorescence** apical, racemose, suberect, producing new racemes with time, peduncle totally covered by large imbricating, spathaceous, conduplicate bracts. **Floral bracts** much shorter than the ovary, ovate, acuminate. **Ovary** terete, thin. **Flowers** 7-9 or more, simultaneous, sepals and petals green, lip white. **Sepals** spreading, free, oblanceolate, obtuse, margins sinuate towards the apex, 5-veined. **Petals** spreading, free, narrowly oblanceolate-spathulate, very narrow at the base, apex rounded, minutely apiculate, margin entire, 3-veined, the lateral veins branching at the middle. **Lip** united to the column, three-lobed, deeply cordate at the base, margin entire; bicallose, the calli thin, elongate, disc with three thickened veins; lateral lobes much larger than the midlobe, dolabriform, rounded; midlobe obcuneate, apex bilobed, the corners rounded. **Column** straight, short. **Clinandrium** short, entire. **Nectary** penetrating half the ovary, not inflated.

OTHER SPECIMENS: None seen.

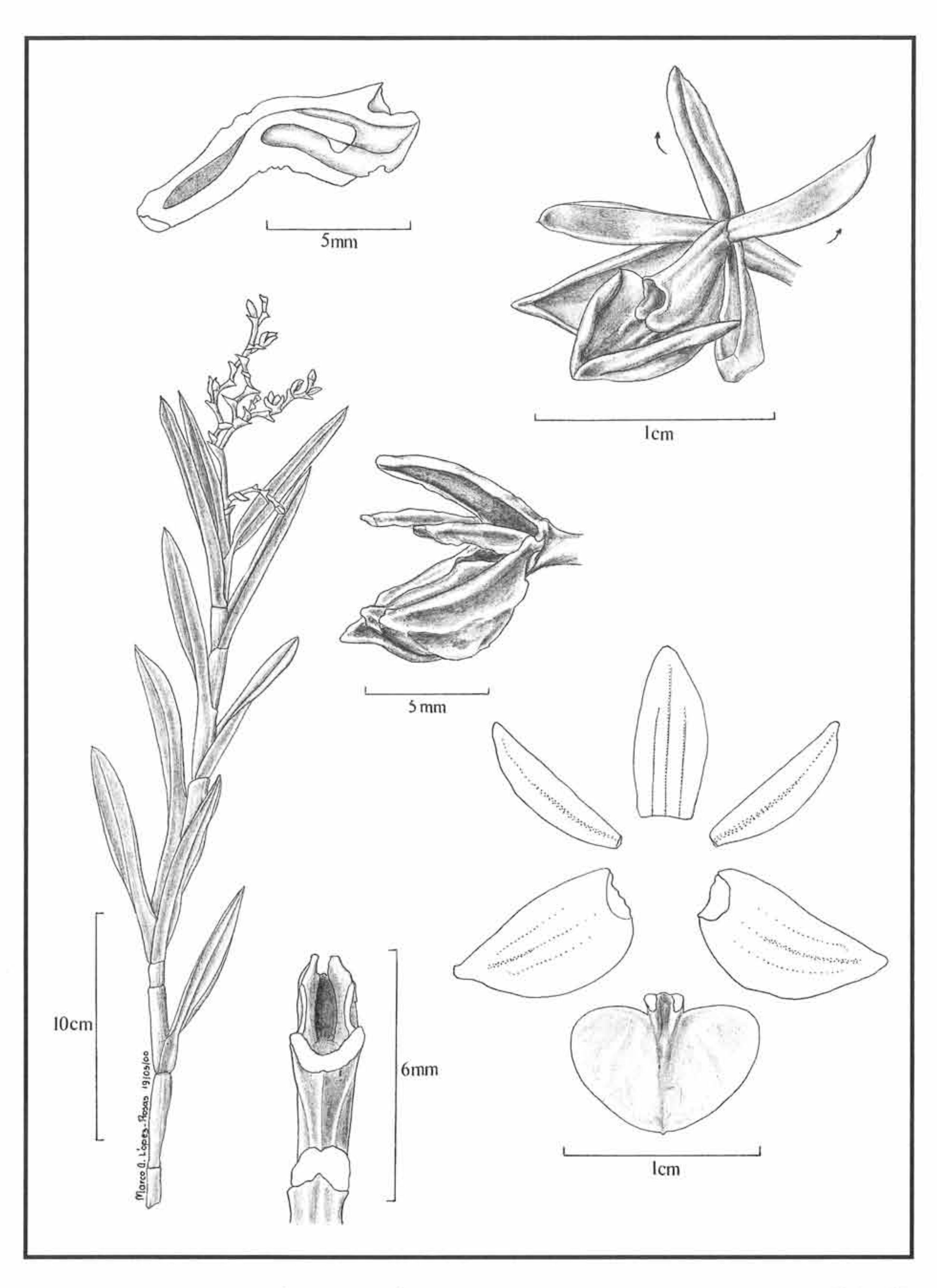
DISTRIBUTION AND ECOLOGY: South eastern Ecuador, from the eastern slopes of the Andes, at 1450 m altitude, epiphytic in disturbed primary forest. Flowering in April.

RECOGNITION: *Epidendrum gualaquicense* belongs to the cnemidophorum subgroup of the cristatum group, recognized by the cane-like stems, numerous large, narrow leaves, apical inflorescence subtended by several large, acute, imbricating bracts, racemose, nutant inflorescence with fleshy flowers, the three-lobed lip with entire margins. The species is recognized by the green and white flowers, sepals 21 mm long and the midlobe of the lip obcuneate, shallowly sinuate at the apex, the corners rounded. It is somewhat similar to *Epidendrum oraion* Hágsater from northern Colombia which has fuchsia and white colored flowers, the basal lobes semi-orbicular, and the lobes of the bilobed midlobe strongly divaricate, leaves 2-3 cm wide. *Epidendrum harrisoniae* Hook. from the Organ Mountains in eastern Brazil has green and white flowers, but the obcuneate midlobe has lobes about the same size as the lateral lobes and similarly shaped.

4

CONSERVATION STATUS: DD. Data deficient.

ETYMOLOGY: In reference to the type locality of Gualaquiza.



EPIDENDRUM HARLINGII Hágsater & Dodson

Plate 443

EPIDENDRUM HARLINGII Hágsater *et* Dodson, *sp. nov.*

Type: ECUADOR: Morona-Santiago (near the border of Azuay) road in construction Sigsig-Gualaquiza, Cordillera Matanga, 10 Apr. 1968, **G. Harling, G. Storm & B. Ström 8157.** Holotype: GB! (illustration voucher). Isotype: AMES!

Epidendro papallactensi similare sed habitu minore, inflorescentiae pedunculo brevi, petalis integris divergens.

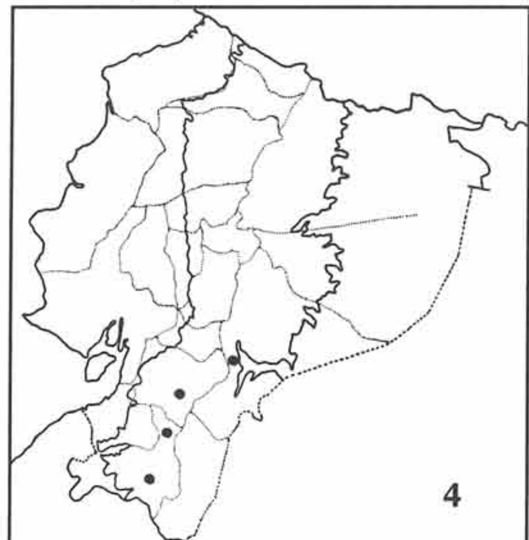
Hierba terrestre, cespitosa, erecta, de 20-41+ cm de alto. **Raíces** basales, gruesas, 2-3.5 mm de grosor. **Tallos** sencillos, tipo caña, teretes, rectos, 21-31 x 0.47-0.85 cm. **Hojas** 10-16, distribuidas a todo lo largo del tallo, alternas, dirigidas hacia arriba, rígidas, las basales con el tiempo caedizas; vainas tubulares, estriadas y rugosas, 1.1-3.7 cm de largo; lámina foliar angostamente lanceolada, obtusa, diminutamente apiculada, con una quilla dorsal, margen entero y ligeramente revoluto, coriácea, rugosa en el haz, semejantes, 5.4-12.1 x 0.7-1.2 cm. **Espata** ausente. **Inflorescencia** apical, del crecimiento maduro, paniculada, erecto en la base, las ramas arqueado nutantes, 5-12 cm de largo; pedúnculo corto desprovisto de brácteas, 1.6-3 cm de largo; raquis terete, flexuoso hacia su parte media apical, ramas de 2.5-10 cm de largo, provistas de una bráctea basal semejante a las florales, 7-15 mm de largo. **Brácteas florales** tan largas como el ovario, triangular ovadas, agudas, abrazadoras en la base, 3-4 x 1.6-2.1 mm. **Ovario** terete, no inflado, no ornamentado, 3-4.5 mm de largo. **Flores** ca. 35, el labelo orientado hacia el raquis, largamente sucesivas, sépalos y pétalos verde amarillento a pardo violeta, el labelo más verdoso, sin datos de fragancia. **Sépalos** entreabiertos, libres, ovados, margen entero, 3-nervados, el **dorsal** obtuso, 8.7 x 3.8 mm; los **laterales** algo oblicuos, subagudos, 9.4 x 5.1 mm. **Pétalos** entreabiertos, libres, oblicuos, falcados, angostamente elípticos, obtusos, margen entero, 1-nervados, 8.9 x 3.2 mm. **Labelo** unido a la columna, ampliamente cordiforme, ápice redondeado, diminutamente apiculado, margen entero e involuto, cóncavo en posición natural sin abrazar a la columna, 6.6 x 9.7; bicalloso, callos pequeños, bajos, laminares, fundiendose en una quilla baja y corta. **Columna** corta, gruesa, de 5 mm de largo. **Clinandrio** corto, entero. **Antera** no vista. **Polinios** no vistos. **Rostelo** hendido. **Lóbulos laterales del estigma** de 1/3 del largo de la cavidad. **Nectario** sin traspasar el perianto, ancho a todo lo largo, no ornamentado. **Cápsula** no vista.

Terrestrial, caespitose **herb. Roots** thick. **Stem** cane-like, erect, simple, terete. **Leaves** distributed throughout the stem, sheath tubular, striated and rugose; blade narrowly lanceolate, obtuse, dorsally carinate and minutely apiculate, margin entire, revolute, coriaceous, rugose above. **Inflorescence** apical, paniculate, peduncle short, erect, branches arcuate-nodding, somewhat zigzag. **Floral bracts** as long as the ovary, triangular-ovate, acute. **Ovary** short, terete. **Flowers** successive, flowering over a long time, lip always oriented towards the rachis, sepals and petals yellowish green to brown-violet, lip greener. **Sepals** partially open, free, ovate, margin entire, 3-veined. **Petals** narrowly elliptic, oblique, falcate, obtuse, margin entire, 1-veined. **Lip** widely cordiform, rounded, minutely apiculate, margin entire and involute, concave in natural position without embracing the column, bicallose, calli small, laminar, fusing into a short low keel. **Column** short, thick. **Clinandrium** short, entire. **Nectary** short, not surpassing the perianth, wide, unornamented.

OTHER SPECIMENS: ECUADOR: Azuay: Oña, *Prieto P-316*, AMES! S! SEL! **Loja:** Amaluza-Palanda, *Øllgaard et al. 9695*, AAU! AMES! F! MO! NY! Vicinity of Lagunas Compadre, *Madsen & Pedersen 86445*, MO! QCA!

DISTRIBUTION AND ECOLOGY: Found on the eastern cordillera of the Andes from Cuenca to the Peruvian border, at 3200-3450 m altitude, in wet bogs and páramo. Flowering in April and September.

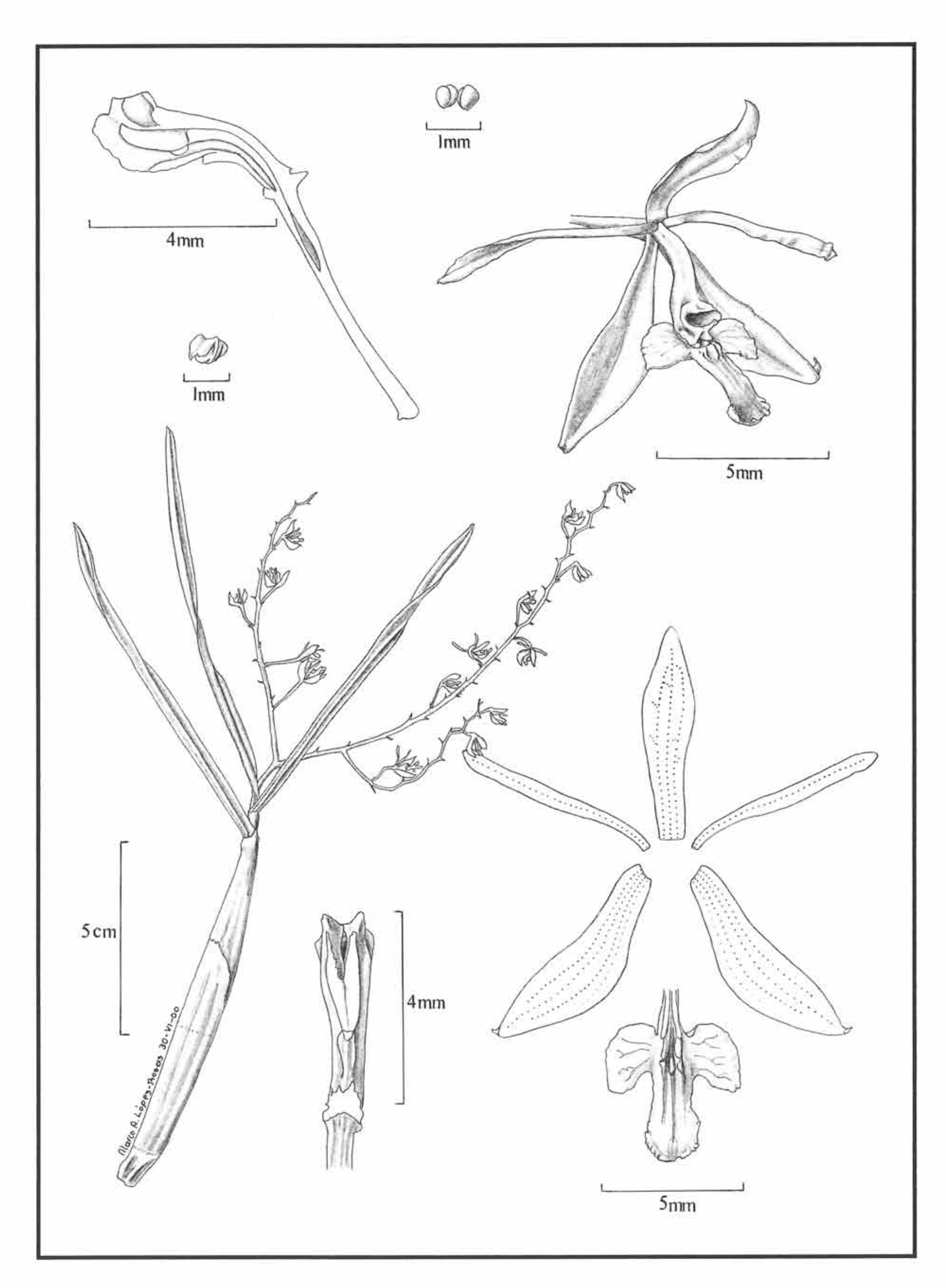
RECOGNITION: *Epidendrum harlingii* belongs to the frutex group and is recognized by the caespitose habit, simple stems, short, lanceolate leaves, nutant branches of the inflorescence, widely cordiform lip, obliquely elliptic petals with entire lip and the greenish-brown flowers. *Epidendrum papallactense* has a larger habit overall, the flowers are brownish violet, and the petals have an erose margin. *Epidendrum frutex* Rchb.f. is much larger and has smaller flowers with a rhombic lip. *Epidendrum aquaticoides* C. Schweinf. has stouter stems, larger leaves and orange-red flowers.



CONSERVATION STATUS: DD. Data deficient.

ETYMOLOGY: In honor of Gunnar Harling, who collected the type. He has collected extensively in Ecuador at least between 1947 and 1993. Emeritus botanist (born 1920), at the Göteborg Botanical Museum in Sweden, he has specialized in Cyclanthaceae, Asteraceae, Mutisieae; and Cunoniaceae.

Authors: E. Hágsater & C. H. Dodson **Illustrator: M. López R.** **Editors: E. Hágsater & L. Sánchez S.**
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EPIDENDRUM HERINGERI Hágsater

Plate 444

EPIDENDRUM HERINGERI Hágsater, *sp. nov.*

Type: BRASIL: Goiás. Anápolis, 21 March 1964, ***E. P. Heringer 9619.*** Holotype: UB! (illustration voucher). Isotype: HB 20674 (fide Pabst).

Epidendro puro Lindl. simile sed habitu subtiliore, rachide tenui ad apicem fractiflexa, floribus minoribus, clinandrio prominenti infundibuliformi ad marginem eroso discrepans.

Hierba epífita, hasta de 22-25 cm de alto. **Raíces** no vistas. **Tallos** sencillos, engrosados, formando un seudobulbo fusiforme heteroblástico, rectos, 9.7-10 x 0.9-1 cm; cubiertos parcialmente por una vaina caediza basal, 4.4 x 1 cm. **Hojas** 3, agrupadas en el ápice del seudobulbo; lámina linear, aguda, carinada dorsalmente, margen entero, 10.7-14 x 4-6 cm. **Espata** ausente. **Inflorescencia** apical, arqueada, paniculada, 8-12.5 cm de largo, con 2-3 racimos desiguales provistos de una bráctea basal en cada uno de ellos, triangular, aguda, abrazadora, 1.5-2 mm de largo; pedúnculo corto, erecto, terete, 0.7-0.9 cm de largo; el raquis terete, delgado, flexuoso en zigzag hacia la parte media apical. **Brácteas florales** mucho más cortas que el ovario, triangulares, agudas, 1-2 mm de largo. **Ovario** delgado, terete, glabro, ligeramente engrosado en el tercio apical, 5-9 mm de largo. **Flores** numerosas, 11-32 por racimo, simultáneas, resupinadas, color blanco, sin datos de fragancia. **Sépalos** libres, glabros, el **dorsal** extendido, angostamente obtrulado oblanceolado, obtuso, margen entero, 3-nervados, 6.4-7.2 x 1.7 mm; los **laterales** entreabiertos, elípticos, agudos, margen entero, ligeramente falcados, con una carina dorsal, 4-nervados, 6.4-7.4 x 2 mm. **Pétalos** extendidos, libres, lineares, obtusos, margen entero, 1-nervados, 5.6-7 x 0.4-0.65 mm. **Labelo** unido a la columna, base cordada, trilobado, 4.6-5.0 x 4.2-4.5 mm; bicalloso, los callos alargados, prolongados en dos quillas; con una quilla intermedia, dilatada hacia el ápice, roma, ligeramente más alargada que las laterales; lóbulos laterales oblicuamente ovados, margen irregular; lóbulo medio subrectangular, ensanchado hacia el ápice, redondeado, margen irregular. **Columna** arqueada, sigmoide, ensanchada hacia la parte apical, 4 mm de largo. **Clinandrio** corto, en forma de embudo, margen eroso. **Antera** reniforme, 4-locular. **Polinios** 4, obovoides, desiguales. **Rostelo** apical, hendido. **Lóbulos laterales del estigma** de ¼ de largo de la cavidad estigmática. **Nectario** a la altura del perianto, sin penetrar el ovario, no ornamentado. **Cápsula** no vista.

Epiphytic **herb. Stems** simple, cane-like, thickened fusiform. **Leaves** 3, aggregate at the apex of the stem, linear, acute. **Inflorescence** apical, paniculate, arching, delicate, zigzag towards the apex. **Floral bracts** much shorter than the ovary, triangular, acute. **Ovary** thin, glabrous, somewhat thickened in the apical third. **Flowers** numerous, simultaneous, resupinate, white. **Sepals** free, glabrous, partly spreading, elliptic, acute; dorsal oblanceolate, obtuse, 3-veined; the laterals somewhat falcate, dorsally carinate, 4-veined. **Petals** spreading, linear, obtuse, 1-veined. **Lip** united to the column, cordate, 3-lobed, bicallose, the calli elongate and prolonged into low keels, with a central low keel; lateral lobes obliquely ovate, margin irregular, midlobe subrectangular, widened towards the apex and forming a suborbicular plate, margin irregular. **Column** arching, sigmoid, widened toward the apex. **Clinandrium** funnel-shaped, margin erose. **Rostellum** apical, slit. **Nectary** not penetrating past the perianth.

OTHER SPECIMENS: None seen.

OTHER RECORDS: BRAZIL: Rio de Janeiro: without locality, an illustration, *Professor of the Colégio Lafayette,* Orquídea (Río) 29(1): t. IV. 1967.

DISTRIBUTION AND ECOLOGY: Known only from Anápolis in the state of Goiás, in the Planalto do Brasil and a cultivated plant collected in the state of Río de Janeiro without exact locality and illustrated in 1965. Flowering in March.

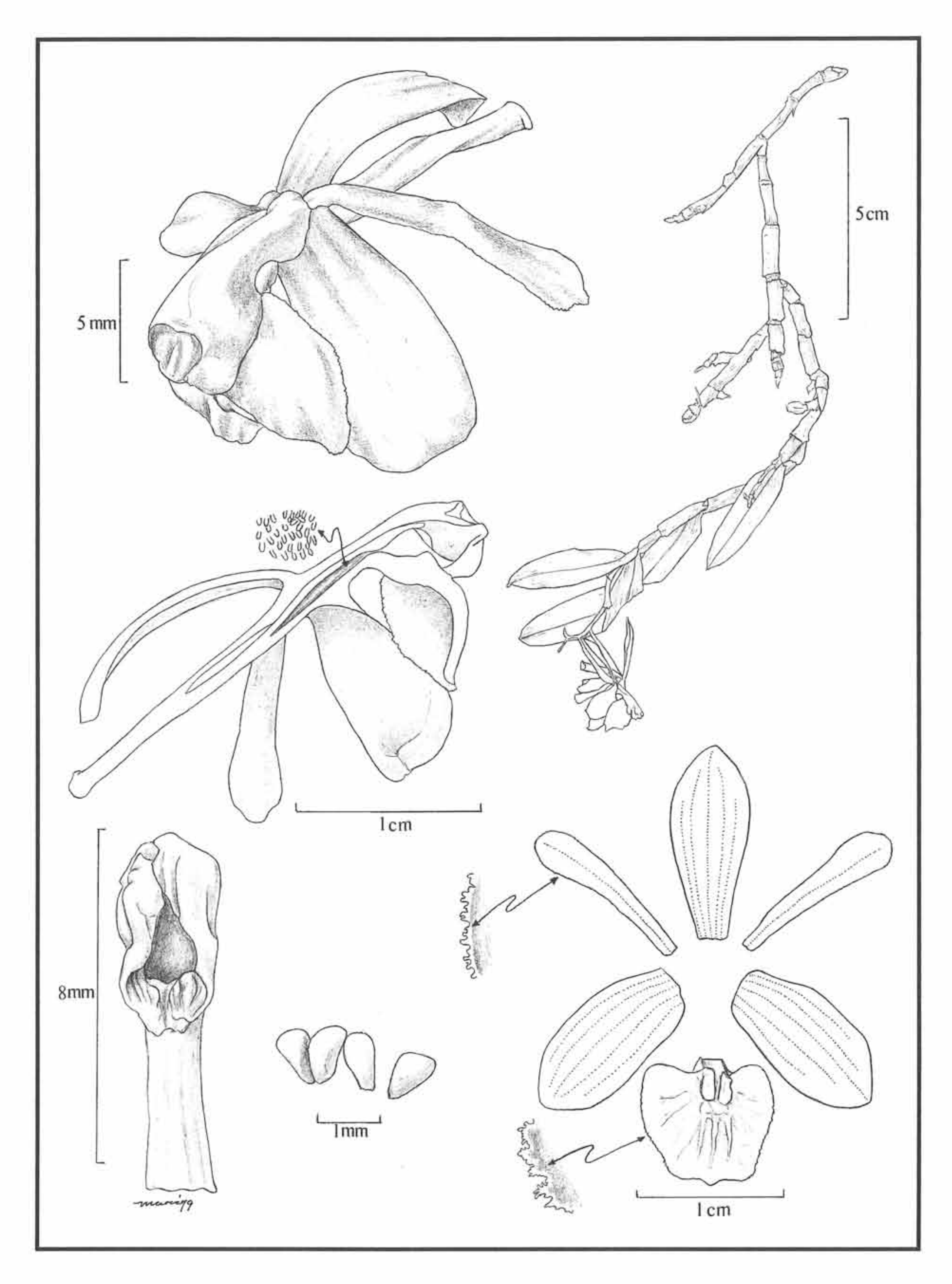


RECOGNITION: *Epidendrum heringeri* is recognized by its simple, fusiform, cane-like stems, long, linear, narrow leaves, delicate, paniculate inflorescence, the apical portion zigzag, and the small glabrous, white flowers with a 3-lobed lip, the lateral lobes obliquely ovate, and the rectangular midlobe ending in a widened, rounded plate. It is similar to *Epidendrum purum* which is overall more stout, the rachis thicker and straight, the flowers generally larger, the column straight, clinandrium shorter.

ETYMOLOGY: In honor of Ezechías Paulo Heringer, past curator of the Herbário da Reserva Ecológica do Instituto Brasileiro de Geografía e Estadística, (IBGE) Brasília, who collected the type. Specimens of orchids collected between 1939 and 1978 have been seen at HB, K, NY, R, SP and UB.

REFERENCES: Pabst, Guido F. J., 1967. Additamenta ad Orchidologiam Brasiliensem – VIII. **Orquídea (Río)** 29(1): 5-22. As *E. purpum* Lindl. The holotype was annotated by Pabst as *E. heringeri* Pabst, but the name was never published. An illustration of a plant collected in the State of Río de Janeiro by a professor of the Colégio Lafayette is cited and published on plate IV.

Authors: E. Hágsater **Illustrator: M. López R.** **Editors: E. Hágsater & L. Sánchez S.**
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EPIDENDRUM HOLMNIELSENII Hágsater & Dodson **Plate 445**

EPIDENDRUM HOLMNIELSENII Hágsater et Dodson, *sp. nov*

Type: ECUADOR: Azuay, at Lake Zarugucho, 20 km west of Cuenca, 3000 m, 5 Jun 1958, ***C. H. Dodson 414.*** Holotype: SEL! (illustration voucher).

Epidendro eroso Ames & C. Schweinfurth affine sed floribus majoribus, labello trapezoidali, columna arcuata, nectario ovarium vix penetranti recedit.

Hierba epífita, simpódica, 9.5-31 cm de alto. **Raíces** basales, gruesas, ca. 1.8-3 mm de grosor. **Tallos** sucesivos, producidos de la mitad apical del tallo anterior, erectos, teretes, 1-17 x 0.17-0.36 cm, el basal generalmente es el más largo. **Hojas** 3-6, distribuidas hacia la mitad apical del tallo; vaina tubular, 3-13 mm de largo; lámina elíptica, aguda a obtusa, dorsalmente carinada, 1.1-3.6 x 0.6-1.2 cm. **Espata** ausente. **Inflorescencia** apical, racemosa, arqueada, nutante, corta, 2-2.5 cm; pedúnculo corto, lateralmente aplanado, 5-6 mm de largo. **Flores** 4-6, simultáneas, resupinadas, colgantes, de color verde, con manchas pardo purpúreas, disco pardo, fragancia débil, dulce. **Bráctea floral** mucho más corta que el ovario, aguda, 2-5 mm de largo. **Ovario** no inflado, terete, no ornamentado, 13-15 mm de largo. **Sépalos** reflexos, libres, obovados, subagudos, margen entero y extendido, 5-nervados, 13 x 5.5 mm; los **laterales** descendentes, libres, elípticos, obtusos, margen entero, 12 x 5.8 mm. **Pétalos** depresos, libres, oblanceolados, redondeados, margen finamente lacerado, 1-nervados, 12 x 2.7 mm. **Labelo** unido a la columna, entero, trapezoide, base ligeramente cordada, margen finamente lacerado, ápice truncado con un apículo ancho, 8 x 9 mm; bicalloso, los callos alargados; disco tricarinado, las carinas delgadas, desvaneciendose hacia el ápice, las laterales ligeramente más cortas. **Columna** arqueada, 9 mm de largo. **Clinandrio** reducido, entero. **Antera** no vista. **Polinios** 4, desiguales, obovoides, lateralmente comprimidos. **Rostelo** apical, hendido. **Lóbulos laterales del estigma** no vistos. **Nectario** penetrando un 1/6 de largo del ovario, ornamentado con diminutas papilas a lo largo del mismo. **Cápsula** no vista.

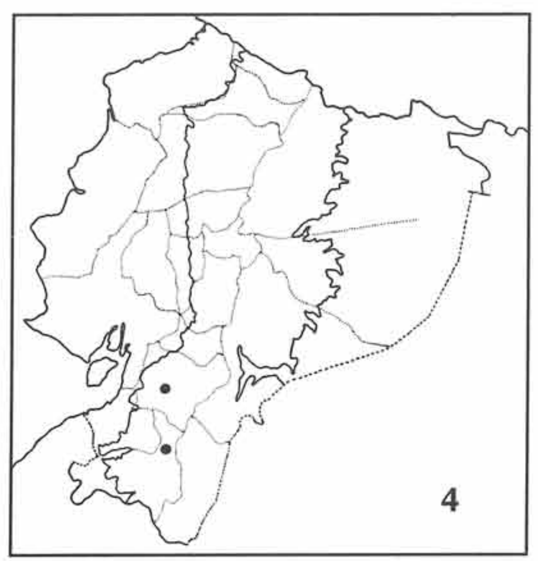
Epiphytic, sympodial **herb**. **Roots** basal, thick. **Stems** successive, produced from the apical half of the previous stem, erect, terete. **Leaves** 3-6, distributed throughout the apical half of the stem; blade elliptic, acute to obtuse, dorsally carinate. **Inflorescence** apical, racemose, arching, nutant. **Flowers** 4-6, simultaneous, resupinate, green with purple-brown spots, disc brown, with weak sweet fragrance. **Floral bracts** much shorter than the ovary, acute. **Ovary** thin. **Sepals** free, 5-veined, margins entire; **dorsal** reflexed, obovate, subacute; **laterals** elliptic, obtuse. **Petals** oblanceolate, rounded, margin minutely lacerate, 1-veined. **Lip** united to the column, entire, trapeziform, slightly cordate, apex truncate with a wide apicule. **Column** arched. **Clinandrium** reduced, entire. **Nectary** penetrating one-sixth of the ovary, ornamented with small papillae.

OTHER SPECIMENS: ECUADOR: Loja: Loja-Zamora km 14, 2770 m, *Holm-Nielsen et al. 3983*, AAU! Loja-Zamora, 2500 m, *van der Werff et al. 9027*, QCNE!

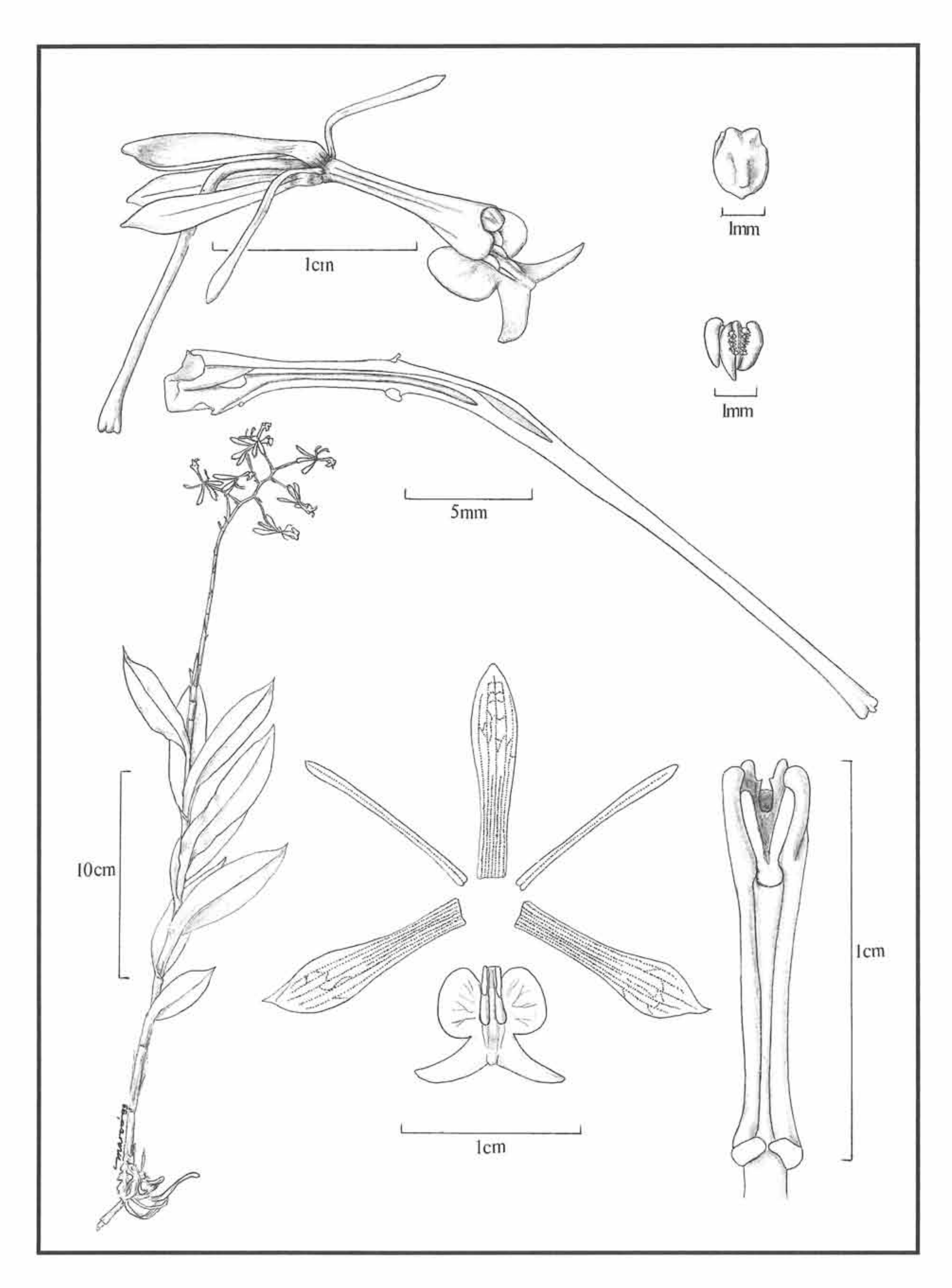
DISTRIBUTION AND ECOLOGY: Known from southern Ecuador, from the elfin forests east of Loja and the trees along the drainage of Lake Saragucho, west of Cuenca, at around 2700-3000 m altitude. Flowering in April and June.

RECOGNITION: *Epidendrum holmnielsenii* belongs to the arbuscula group and is recognized by the successive lateral growths, small elliptic leaves, and the flowers with reflexed, obovate dorsal sepals, oblanceolate, 1-veined petals and a trapeziform lip with a minutely lacerate margin, papillate nectary barely penetrating the ovary, the flowers green spotted with purple-brown and a brown disc, with a faint sweet fragrance. *Epidendrum erosum* is vegetatively similar, but the lip is reniform-cordate, semiorbicular, 5 x 7 mm, the margin more deeply irregular cellular-erose, the column straight and the nectary penetrating half the ovary. It is somewhat similar to *E. lechleri* Rchb.f. and has a similar vegetative habit, but flowers are somewhat smaller, sepals 8-9 mm long, petals 3-veined, lip reniform in general form, and the nectary glabrous.

CONSERVATION STATUS: DD. Data deficient.



ETYMOLOGY: In honor of L. B. Holm-Nielsen (1946), of the Herbarium Jutlandicum, at the University of Aarhus, Denmark (AAU), specialist in Passifloraceae, Helobiales, who has collected extensively in Ecuador, and participated in the collection of this species.



EPIDENDRUM IGUAGOI Hágsater & Dodson

Plate 446

EPIDENDRUM IGUAGOI Hágsater et Dodson, *sp. nov.*

Type: ECUADOR: Napo; Vía Coca-Loreto-Hollín. Sitio Huaticocha, 500 m, 00°45'S 77°29'W, 11 Jan 1989, ***Walter Palacios, C. Iguago & F. Hurtado 3544.*** Holotype: QCNE! (illustration voucher).

Epidendro turialvae Rchb. f. similare sed foliis latioribus brevioribusque, floribus minoribus, labelli lobulis basalibus parvis transverse ovatis, lobulis apicalibus triangularibus acutis, callis elongatis labelli dimidium attingentibus differt.

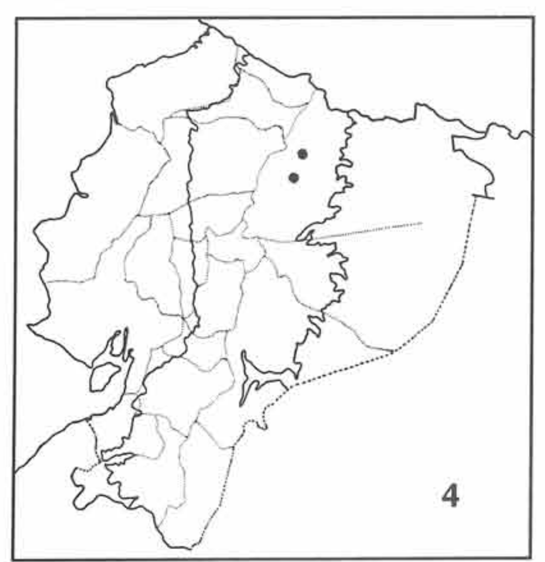
Hierba epífita, cespitosa, hasta de 37 cm de alto. **Raíces** basales, carnosas, filiformes, ca. 1 mm de grosor. **Tallos** sencillos, tipo caña, lateralmente comprimidos, rectos, 23 x 0.15-0.25 cm. **Hojas** 8-9, equidistantes, distribuidas a lo largo del tallo; vainas lateralmente comprimidas, lisas, 1.7 x 0.3 cm; lámina delgada, angostamente elíptica, acuminada, margen entero, con el envés púrpura obscuro, 3.5-8 x 1.4-2 cm. **Espata** ausente. **Inflorescencia** apical, erecta, un racimo, 14 cm de largo; pedúnculo largo, erecto, lateralmente comprimido, 9.5 cm de largo, provisto de 5 brácteas tubulares, agudas, no imbricadas, reduciendo su tamaño hacia la parte apical, la basal de 17 mm y la apical de 10 mm de largo; el raquis arqueado, delgado, flexuoso en zigzag. **Brácteas florales** mucho más cortas que el ovario, triangulares, acuminadas, 3-5 mm de largo. **Flores** 7, simultáneas, resupinadas, sépalos y pétalos "verde rojizos, labelo amarillo", fragancia no registrada. **Sépalos** reflexos, libres, oblanceolados-subespatulados, agudos, margen entero, 7-nervados, 12 x 2.3 mm; los **laterales** con una carina dorsal. **Pétalos** extendidos, lineares, filiformes, ensanchándose ligeramente hacia el ápice, obtusos, margen extendido y entero, 1-nervados, 11 x 0.5 mm. **Labelo** unido a la columna, base cordada, trilobulado, 6.5 x 8.4 mm; bicalloso, los callos aplanados, alargados; disco con tres quillas centrales, la central prominente, roma, llegando hasta el seno apical, las laterales más cortas y delgadas; lóbulos laterales transversalmente ovados, margen entero; lóbulo medio bilobado, los lóbulos fuertemente divaricados, angostamente triangulares, ligeramente recurvados, agudos, margen entero. **Columna** recta, delgada, 10 mm de largo. **Clinandrio** reducido, entero. **Antera** ovoide, 4-locular. **Polinios** 4, tipo ala de pájaro, caudículas más cortas que los polinios. **Rostelo** subapical, hendido. **Lóbulos laterales del estigma** de la mitad de largo de la cavidad estigmática. **Nectario** penetrando alrededor de 1/3 del ovario, no ornamentado. **Cápsula** no vista.

Epiphytic, caespitose **herb. Stems** cane-like, simple, laterally compressed. **Leaves** narrowly elliptic, acuminate. **Inflorescence** apical, erect, racemose, the peduncle laterally compressed, partly clothed by tubular bracts, rachis zigzag. **Floral bracts** much shorter than the ovary. **Flowers** few, simultaneous, resupinate, "sepals and petals reddish-green, lip yellow". **Sepals** reflexed, free, oblanceolate-subspathulate, acute, 7-veined. **Petals** linear, filiform, 1-veined. **Lip** united to the column, cordate, 3-lobed, bicallose, the calli long and narrow, reaching the middle of the lip, disc 3-carinate; lateral lobes transversely ovate, small, margin entire, apical lobe bilobed, strongly divaricate, the lobes narrowly triangular, acute, margin entire. **Column** straight, thin. **Clinandrium** reduced, entire. **Rostellum** subapical, slit. **Nectary** penetrating about one third of the ovary, unornamented.

OTHER SPECIMENS: None seen.

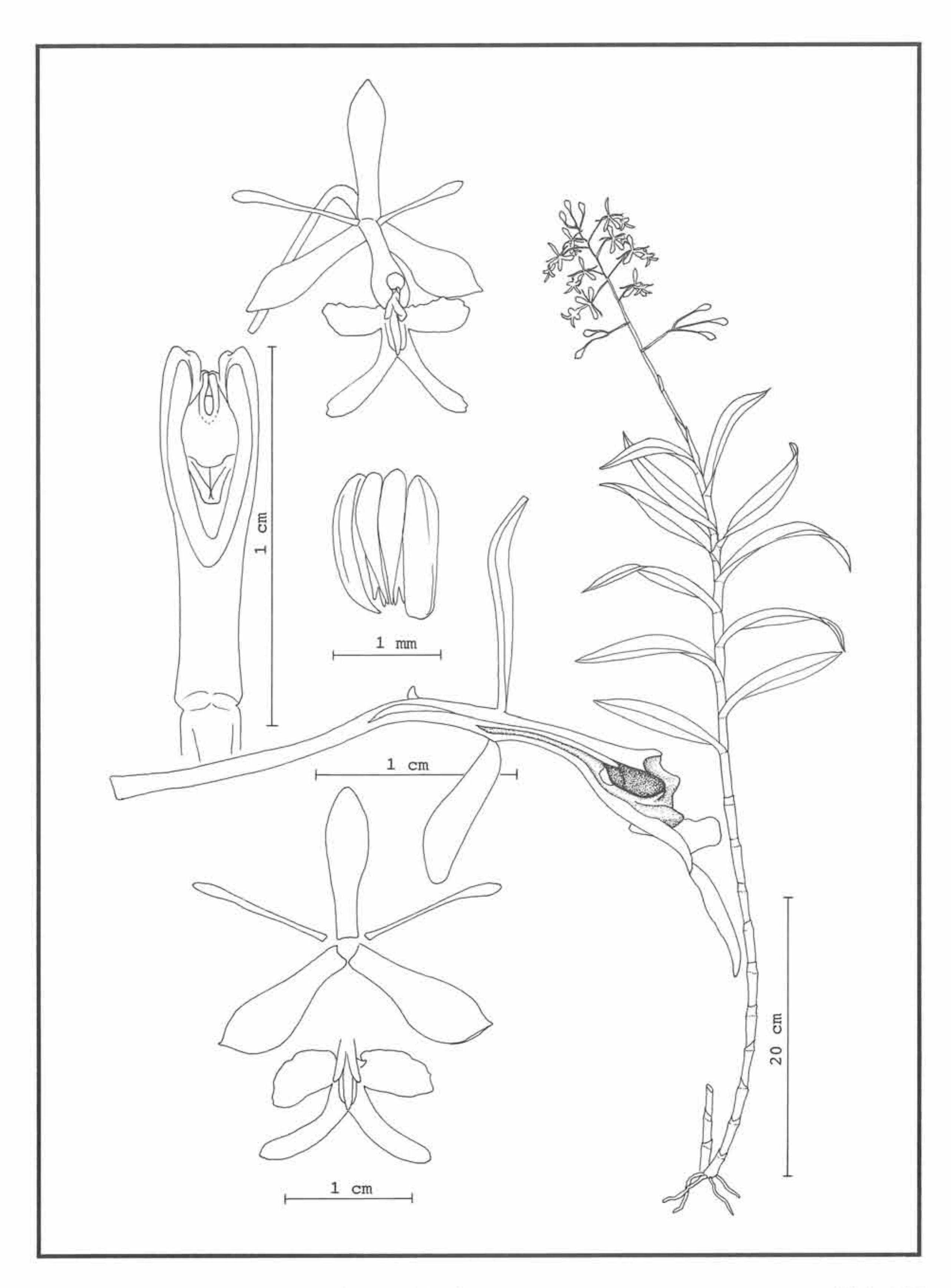
DISTRIBUTION AND ECOLOGY: Found in the lower Amazon basin of central Ecuador, at 500 m altitude, epiphytic, 18 m high on trees in tropical humid primary forest on red soil. Flowering in January.

RECOGNITION: *Epidendrum iguagoi* belongs to the paniculatum group, turialvae subgroup and is recognized by the elongate peduncle of the inflorescence, with a short raceme, the small transversely ovate lateral lobes, triangular, acute apical lobes, and the prominent, elongate calli which reach the middle of the lip. Vegetatively the species is similar to *E. vieirae* Hágsater, which is distinguished by the differently shaped lip with the apical lobes broadened towards the apex and rounded. *Epidendrum turialvae* Rchb. f. has narrower, lanceolate leaves, and the apical lobes oblong and rounded. All species of this subgroup produce new racemes from the old inflorescence; as the type of the new species is a young plant flowering for the first time, this feature is not visible. The flowers are somewhat similar to those of *E. lopezii* Hágsater, which has larger flowers with narrower segments and large plants with paniculate inflorescence.



CONSERVATION STATUS: DD. Data deficient.

ETYMOLOGY: In honor of Carlos Iguago who participated in the collection of the type and participated in various collections between 1988 and 1990, the specimens deposited at QCNE.



EPIDENDRUM JASMINOSMUM Hágsater & Dodson

Plate 447

EPIDENDRUM JASMINOSMUM Hágsater *et* Dodson, *sp. nov.*

Type: ECUADOR: Napo: Lago Agrio, cult. México, 13 junio 1982, ***G. C. Kennedy sub E. Hágsater 5909***. Holotype: QCNE! (illustration voucher). Isotype: AMO! Clonotypes 3 junio 1985, MO! USM!

Epidendrum amplum D. E. Benn. & Christenson simile sed panicula grandi laxiflora, floribus viridulis valde aromaticis jasmini odore, labello niveo differens.

Hierba epífita, cespitosa, de 60-70 cm de alto. **Raíces** carnosas, delgadas. **Tallos** sencillos, tipo caña, teretes, rectos, 44-55 x 5-6 mm. **Hojas** distribuidas en las dos terceras partes apicales del tallo, vaina tubular, lisa, 10-33 x 5-6 mm; lámina foliar articulada, elíptica, acuminada, margen entero, lisa, 8-13 [20] x 1.2-1.8 [40] cm. **Espata** ausente. **Inflorescencia** apical, del crecimiento maduro, florece una sola vez, paniculada, erecta, 10-28 cm de largo, pedúnculo 2-3.5 cm de largo, brácteas del pedúnculo 0-1, acuminadas, conduplicadas, 25-35 cm de largo, semejante a las brácteas de las ramas. **Flores** simultáneas, 8-150, resupinadas, de color verde pálido, el labelo y columna blancos, fragancia débil a intensa a jazmín, diurna. **Bráctea** floral mucho más corta que el ovario, triangular, acuminada, 2-6 mm de largo. **Ovario** pedicelado, no inflado, de sección circular, glabro, 17-26 mm de largo. **Sépalos** extendidos, libres, glabros, carnosos, angostamente espatulado oblanceolados, obtusos a apiculados, márgenes extendidos, 3-5 nervados; 10-13 x 3.0-4.2 mm. **Pétalos** algo reflexos, filiformes, ápice dilatado, obtuso, márgenes extendidos, membranáceos, 1-nervados; 11 x 0.5 mm. **Labelo** unido a la columna, trilobado, cordado en la base, ligeramente más ancho entre los lóbulos apicales que entre los laterales, 8-9 x 12 mm, bicalloso, los callos lateralmente comprimidos, divergentes, agudos, casi llegando a los senos del istmo, carinas tres prominentes, romas, la central llegando hasta el seno apical; lóbulos laterales subrectangulares, alargados, extendidos, de márgenes posteriores irregulares, erosos; lóbulo medio profundamente bifurcado, fuertemente divaricado, los lobos falcados, 6-8 x 1.5-2.0 mm **Columna** delgada, recta, 7-10 mm de largo incluyendo el clinandrio. **Clinandrio** reducido, margen entero. **Rostelo** cerca del ápice de la columna, hendido; lóbulos laterales del estigma pequeños, de alrededor de 1/4 del largo de la cavidad estigmática. **Nectario** poco profundo, apenas penetrando detrás del perianto, no ornamentado. **Antera** obovoidea, 4-locular. **Polinios** 4, tipo ala de pájaro, lateralmente fuertemente comprimidos, los interiores menores, translúcidos; caudículas suaves y lisas, ligeramente mas cortas que los polinios; viscidio semilíquido, transparente. **Cápsula** no vista.

Epiphytic, caespitose **herb**. **Stems** simple, cane-like, terete. **Leaves** elliptic, acuminate. **Inflorescence** paniculate. **Flowers** 8-150, simultaneous, resupinate, pale green, the lip and column white; fragrance weak to strong, in daytime, of jasmine **Floral bract** much shorter than the ovary, acuminate. **Ovary** glabrous. **Sepals** narrowly subspathulate, oblanceolate, obtuse, 3-5-veined. **Petals** filiform, 1-veined. **Lip** 3-lobed, slightly wider between the apical lobes than the lateral lobes; bicallous, calli long, divergent, acute, nearly reaching the isthmus, disc 3-carinate; lateral lobes long, subrectangular, spreading, the rear margin erose, midlobe deeply bifurcate and divaricate, the lobes falcate. **Column** straight. **Clinandrium** reduced. **Pollinia** 4, bird-wing type, unequal; caudicules short and smooth.

OTHER SPECIMENS: ECUADOR: Zamora-Chinchipe: Miasi, *J. Jaramillo14244*, QCA! Margen izquierdo de Río Nangaritza, 950 m, *J. Jaramillo14293*, QCA! Río Sabanilla, Zamora, *Lehmann 6861*, AMES (x2)! K! L! NY! US! Miasi, 930 m, *W. Palacios et al. 8617*, QCNE! Nangaritza; Pachicutza, 900 m, *W. Palacios et al. 8270*, QCNE! **PERU: Loreto:** Pumayacu, between Moyobamba and Balsapamba, 600-1200 m, *Klug 0.17*, AMES! K! NY! US! **San Martin**: Rioja, Quebrada Corontochaque, 1030 m, *I. Sánchez Vega & Dillon 8076*, AMO! En el borde W de Laguna Onercocha, 1100 m, *I. Sánchez Vega, Dillon & Zapata 9380*, AMO! **BRAZIL:** Hort. Sao Paulo, [possibly originally from Ecuador] *Edmundo Ferreira da Silva sub Hágsater 10226*, AMO! HB! SEL!

OTHER RECORDS: ECUADOR: Loja: Vilcabamba, in flower in public orchid garden, said to have come from the oriente, *Hágsater & Dodson s.n.*, Sept. 1999, slide at AMO! **Morona-Santiago:** Hort. Ecuagene, Cuenca, said to come from region of Gualaquiza, Nov. 2000, photograph, AMO!

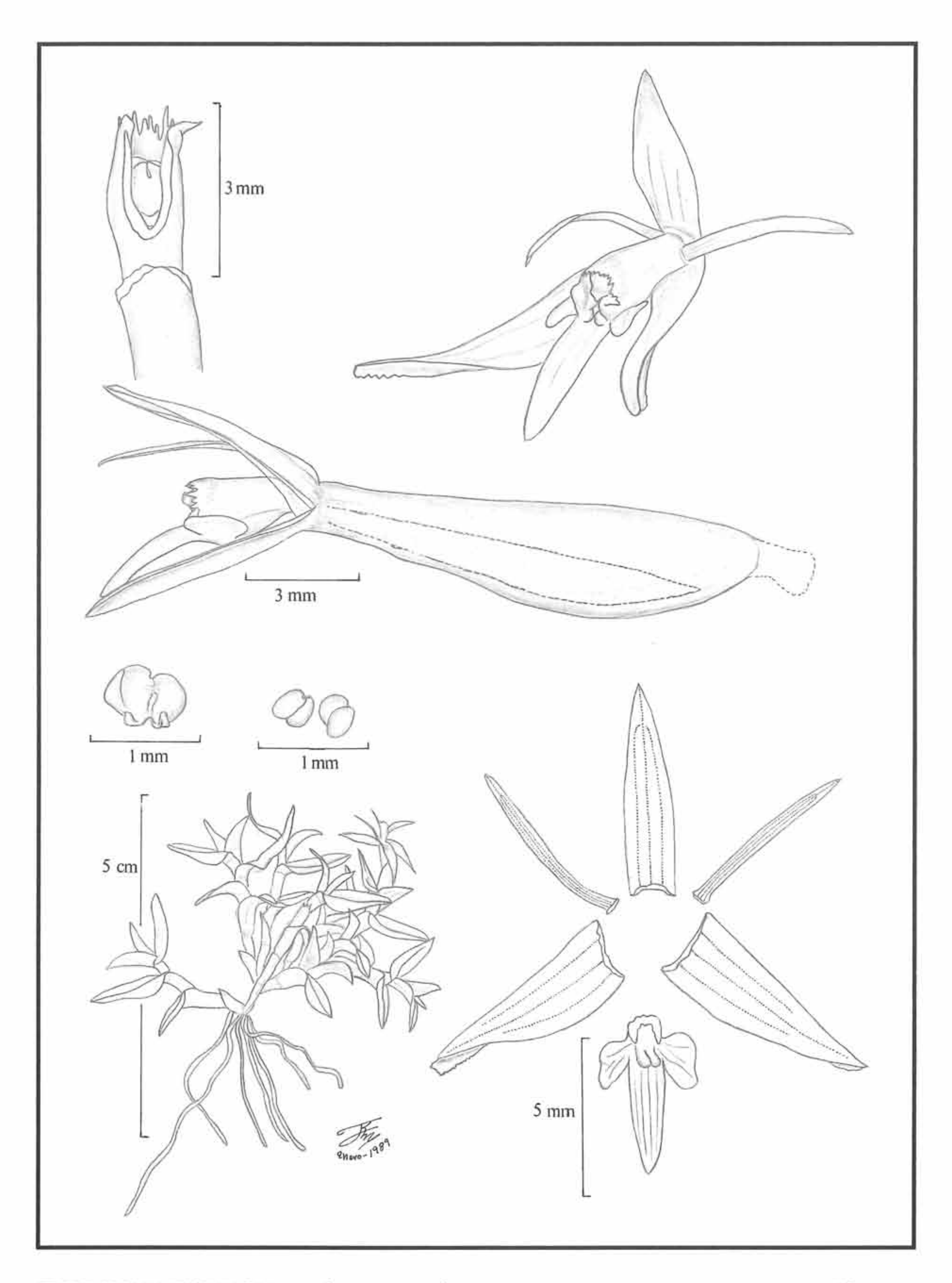


DISTRIBUTION AND ECOLOGY: Apparently widespread along the eastern slope of the Andes in Ecuador and Peru at around 400-1100 m altitude. Flowering from June to September.

RECOGNITION: *Epidendrum jasminosmum* belongs to the paniculatum group and is similar to *E. atacazoicum* Schltr. but has an open to lax-flowered panicle, flowers colored pale green with the lip and column white, strongly fragrant of jasmine. *Epidendrum atacazoicum* has a compact pyramid-like inflorescence of pink flowers, unscented, and is found on the Pacific side of the Andes in central and southern Ecuador. *Epidendrum amplum* is the rosy-lilac colored sister species from Peru and Bolivia, which was illustrated incorrectly by Hooker in Bot. Mag. 94: t. 5731 as *E. paniculatum* Ruiz & Pavón and has been the source of confusion of the identity of the former species. *Epidendrum paniculatum* var. *longicrure* Lindl. (not *E. longicrure* Schltr.) is conspecific with *E. amplum*. *Epidendrum embreei* Dodson has orange- colored flowers with a small, compact lip, the apical lobes barely noticeable.

CONSERVATION STATUS: DD. Data deficient. The area where this species is found has been largely deforested for agriculture.

ETYMOLOGY: In reference to the frequently strong fragrance of jasmine and the greek Οσμη, fragrance. Most species of the paniculatum group are not fragrant.



EPIDENDRUM JESSUPIORUM Hágsater & Dodson

Plate 448

EPIDENDRUM JESSUPIORUM Hágsater et Dodson, *sp. nov.*

Type: ECUADOR: Morona-Santiago: Along road from Macas to Guamote, 1200 m, flowers pale pinkish green, lip white, Jan. 1989, ***Alex Hirtz, C. & J. Luer, P. Jessup & S. Ortega 4031.*** Holotype: RPSC! Isotype: AMO! (flowers in liquid, illustration voucher).

Epidendro nano C. Schweinf. affine sed uniflorum, floribus minoribus et ovarii vesicula majore.

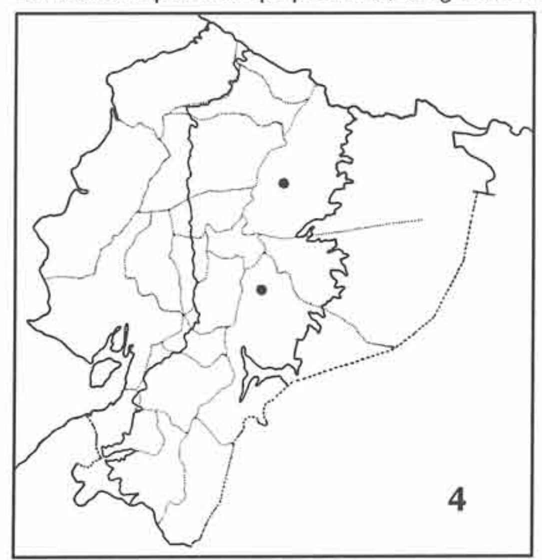
Hierba epífita, cespitosa a colgante cuando vieja, ramificada, 4-6 cm de alto. **Raíces** basales, filiformes, ca. 0.5 mm de grosor. **Tallos** de la base de la planta y de la parte media y superior de los tallos anteriores en plantas adultas, lateralmente comprimidos, 1-3 cm de largo. **Hojas** 3-7, distribuidas a lo largo de todo el tallo, desiguales, equidistantes; vainas foliares ancipitosas, estriadas, dilatadas hacia arriba, 3-4 x 1.5-2.5 mm; lamina articulada, angostamente lanceolada, aguda, suculenta, 6-17 x 2.5-4 mm. **Inflorescencia** apical, sésil, uniflora. **Brácteas florales** 2, imbricadas, ovadas, conduplicadas, ápice redondeado, 7-9 x 3-5. **Flor** solitaria, resupinadas, sépalos rosados, pétalos, labelo y columna verde amarillento o blanco. **Ovario** inflados ventralmente en casi toda su longitud, formando una vesícula alargada y dilatada hacia la base, 10 x 2 mm. **Sépalos** elípticos, agudos, 3-nervados, con un par de nervaduras secundarias, extendidos, margen extendido, 7 x 2 mm; los **laterales** dorsalmente carinados, finamente dentados y aristados. **Pétalos** extendidos, lineares, agudos, 1-nervados, 6 x 0.3 mm. **Labelo** unido al vientre de la columna, carnoso, trilobado, 5 x 3 mm; bicalloso, los callos basales, poco prominentes, sin quilla central; lóbulos laterales de 1/3 del largo del medio, semiovoides; lóbulo medio triangular, agudo. **Columna** recta, 3.5 mm de largo. **Clinandrio** prominente, sobrepasando el cuerpo de la columna. cubriendo totalmente la antera, 3-lobado, fimbriado. **Antera** terminada en un par de procesos laminares agudos. **Polinios** 4, obovados, lateralmente comprimidos, subiguales; caudículas suaves y granulosas, ligeramente más cortas que los polinios; viscidio semilíquido. **Rostelo** no visto. **Lóbulos laterales del estigma** no vistos. **Nectario** muy profundo, dilatado, hacia la mitad. **Cápsula** no vista.

Epiphytic, caespitose **herb**, pendent when old, branched, new stems produced from the middle of the previous stem in older plants. **Stems** laterally compressed, completely covered by evanescent, imbricating, foliaceous sheaths. **Leaves** articulate, lanceolate, acute, succulent. **Inflorescence** apical, sessile, 1-flowered. **Flowers** solitary, sepals rose, petals, lip and column yellowish-green or white. **Ovary** inflated ventrally, forming a prominent vesicle, dilated towards the base. **Sepals** elliptic, acute, 3-veined, with a pair of secondary veins, the laterals dorsally keeled and aristate. **Petals** linear, acute, 1-veined. **Lip** 3-lobed, fleshy; bicallose, the calli basal, small; lateral lobes semiovate, about 1/3 the length of the triangular, acute, apical lobe. **Column** straight. **Clinandrium** prominent, surpassing the body, covering the anther completely, 3-lobed, fimbriate. **Pollinia** 4, obovoid, laterally compressed. **Nectary** very deep, penetrating the whole pedicel, dilated towards the middle.

OTHER SPECIMENS: ECUADOR: Napo: Puyo, 1000 m altitude, *A. Hirtz 1300* AMO! SEL!

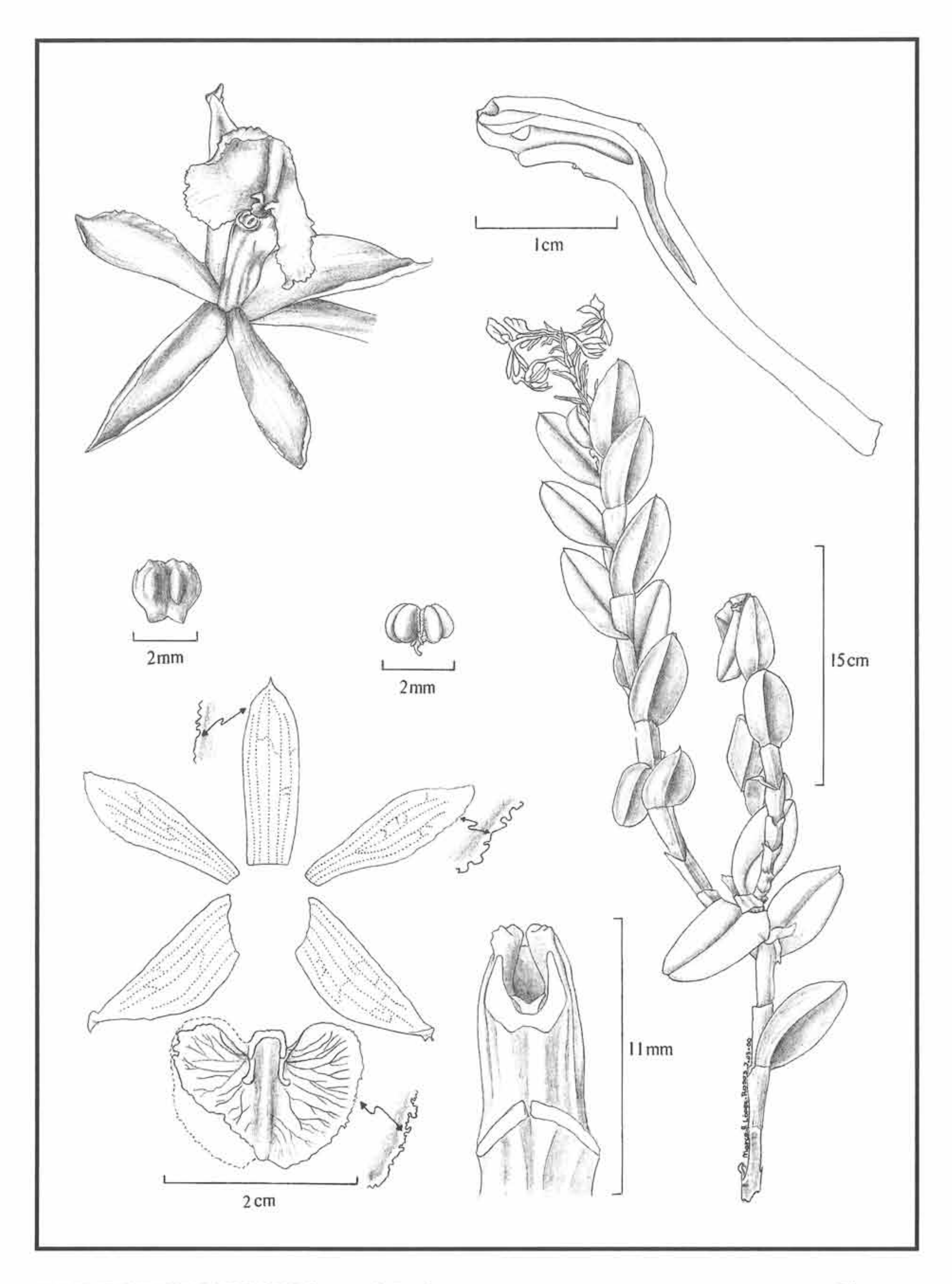
DISTRIBUTION AND ECOLOGY: Known only from the eastern slope of the Eastern Cordillera of the Andes in Central Ecuador, at 1000-1200 m altitude. Flowering in January.

RECOGNITION: *Epidendrum jessupiorum* belongs to the nanum group, and can be recognized by the small plants with single flowers, the 6 mm sepals, 3-lobed lip, the fimbriate clinandrium and very prominent elongate vesicle on the underside of the ovary. It seems closest to *Epidendrum nanum* which has larger flowers, the sepals being 8-11 mm long, a thinner vesicle and 1-3 flowered inflorescence. *Epidendrum lueri* Dodson & Hágsater, is also similar but has a differently dentate clinandrium, shorter midlobe of the lip and a prominent front ornamentation of the anther. *Epidendrum tingo-mariae* Hágsater has an arched column with a prominent, erose clinandrium, green flowers, with the anther also green, and a short nectary that does not penetrate further than the perianth. *Epidendrum milenae* Dodson & Vásquez, recorded from both Bolivia and Ecuador, to be expected in Peru, has green flowers with a prominent purple anther, straight column with a short, entire clinandrium. *Epidendrum nanosimplex* Hágsater & Dodson has a simple, entire lip, the vesicle of the ovary occupying about 1/3 of the ovary, and the entire clinandrium which slightly covers the anther. *Epidendrum madsenii* Hágsater & Dodson has a 3-lobed lip, a triangular, acute midlobe of the lip, a prominent dentate clinandrium, and the ornamentation of the anther consisting of a transverse, dentate process in front. *Epidendrum macasense* Hágsater & Dodson can be distinguished by the shorter, narrower leaves, the narrower petals, the unornamented anther, and the ovary which is not inflated and swollen into a vesicle at the base. In *E. bonitense* Hágsater & Dodson, the nectary does not reach the base of the ovary, the clinandrium is barely erose and the sepals are 4-5-veined, the midlobe of the lip is short-subquadrate and obtuse.



CONSERVATION STATUS: DD. Data deficient.

ETYMOLOGY: In honor of Philip and Ann Jessup who have collected extensively in the Neotropics and provided excellent cultivation and material for research, the former having participated in the collection of the type.



EPIDENDRUM JIMBURENSE Hágsater & Dodson **Plate 449**

EPIDENDRUM JIMBURENSE Hágsater et Dodson, *sp. nov.*

Type: ECUADOR: Loja: Between Jimbura and Sumba (Zumba) on the road Loja-Cariamanga-Sumba, 3000 m, 21 Feb. 1986, ***A. Hirtz, C. & J. Luer & A. Embree 2865.*** Holotype: QCNE! Isotype: AMO (spirit)! RPSC! (illustration voucher).

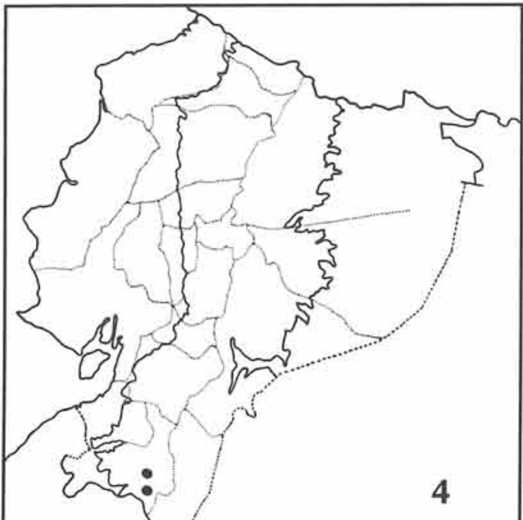
Epidendro orgyali Lindl. affine sed ovario non inflato, floribus majoribus, petalis latioribus, labello emarginato ad sinu mucronem latum ferenti divergens.

Hierba epífita, erecta, ramificada, de 150 cm de alto. **Raíces** no vistas. **Tallos** ramificados, tipo caña, lateralmente comprimidos hacia arriba, de la región apical del tallo principal se originan varias ramas secundarias a partir de las cuales se producen terciarias cortas, de floración; los principales ca 100 x 0.8-1.2 cm, los secundarios 30-39 x 0.5-1.2 cm, los terciarios 4-8 x 0.3-0.6 cm. **Hojas** numerosas, distribuidas a lo largo del tallo, las del tallo principal y los secundarios más grandes; caedizas, vaina tubular, lateralmente comprimidos, finamente estriada, 1-4 cm de largo; lamina ovada a elíptica, asimétricamente bilobada a obtusa, con una quilla dorsal, margen entero, levemente revoluto, subcoriáceas, las del tallo principal 6.5-9.5 x 3.4-4.0 cm, las de los tallos secundarios 4.2-8.4 x 2.4-3.2, las de los terciarios 1.2-4.2 x 0.8-1.3 cm. **Espata** ausente. **Inflorescencia** apical, tanto en el tallo principal como en las ramificaciones, erecta, racemosa, 3.5-9 cm de largo; pedúnculo corto con 1 bráctea basal, semejante a las florales, triangular, largamente acuminada, conduplicada, 15 mm. **Brácteas florales** más cortas a casi tan largas como el ovario, abrazadoras, triangulares, largamente acuminadas, progresivamente más pequeñas hacia el ápice, 5-19 x 3-5 mm. **Ovario** terete, sigmoide, engrosado hacia el ápice, 15-28 mm de largo. **Flores** 8-18, sucesivas, no resupinadas, de color naranja café a café o teñidas de violeta, labelo amarillo, columna rojo pardo hacia el ápice, fragancia no registrada. **Sépalos** extendidos, libres, carnosos, margen finamente dentado, 5-nervados, el **dorsal** oblongo, elíptico, abruptamente agudo, con una quilla prominente dorsal, 14-17 x 5-6 mm; los **laterales** elípticos, oblicuos, acuminados, con una quilla dorsal, aristados 18-20 x 6-7 mm. **Pétalos** extendidos, libres, elíptico oblanceolados, obtusos, con una quilla dorsal, margen eroso dentado, 3-nervados, el nervio central se ramifica tanto en la base como en la parte media dando la apariencia de ser 5-nervados arriba, 14-16 x 5-6 mm. **Labelo** unido a la columna, bilobado, cordado, emarginado, reniforme, mucronado, cuculado en posición natural, 13-16 x 15-20 mm; bicalloso, los callos lateralmente comprimidos, prominentes; provisto de una quilla roma engrosada hacia en ápice del labelo; carnoso, margen profundamente eroso denticulado. **Columna** recta, gruesa, 11 mm de largo. **Clinandrio** reducido, entero. **Antera** subreniforme, 4-locular. **Polinios** 4, obovoides, subiguales. **Rostelo** subapical, hendido. **Lóbulos laterales del estigma** de 1/3 del largo de la cavidad. **Nectario** poco profundo, sin penetrar detrás del perianto, no ornamentado. **Cápsula** no vista.

Epiphytic, erect, branching **herb. Stems** laterally compressed above, the main stem branched into secondary stems, and then into short flowering stems. **Leaves** numerous, distributed throughout the stems, upper sheaths laterally compressed; blade ovate to elliptic, bilobed to obtuse, those of the main and secondary stems larger than those of the tertiary ones. **Inflorescence** apical, from all stems, erect, racemose. **Floral bracts** shorter than to nearly as long as the ovary, acuminate. **Ovary** sigmoid, thickened towards the apex. **Flowers** 8-18, successive, non-resupinate; orange-brown to brown or tinged with purple, lip yellow, column red-brown towards the apex. **Sepals** spreading, free, margin minutely dentate, 5-veined, **dorsal** oblong-elliptic, abruptly acute, **laterals** elliptic, oblique, acuminate. **Petals** spreading, elliptic-oblanceolate, obtuse, margin deeply erose-denticulate, 3-veined, the mid-vein branching in the middle and above. **Lip** united to the column, bilobed, cordate, emarginate, reniform, cucullate in natural position; bicallose, calli laterally compressed, margin deeply erose-denticulate. **Column** short, thick. **Clinandrium** reduced, entire. **Pollinia** 4, obovoid, subequal. **Nectary** short, not penetrating behind the perianth, unornamented.

OTHER SPECIMENS: ECUADOR: Loja: Amaluza, *Øllgaard & Balslev 9786*, AAU! MO! NY!

DISTRIBUTION AND ECOLOGY: Known only from the border between southern Ecuador in the province of Loja, and Peru; growing epiphytic among shrubs in protected areas along páramo, 3000-3400 m. Flowering in September.

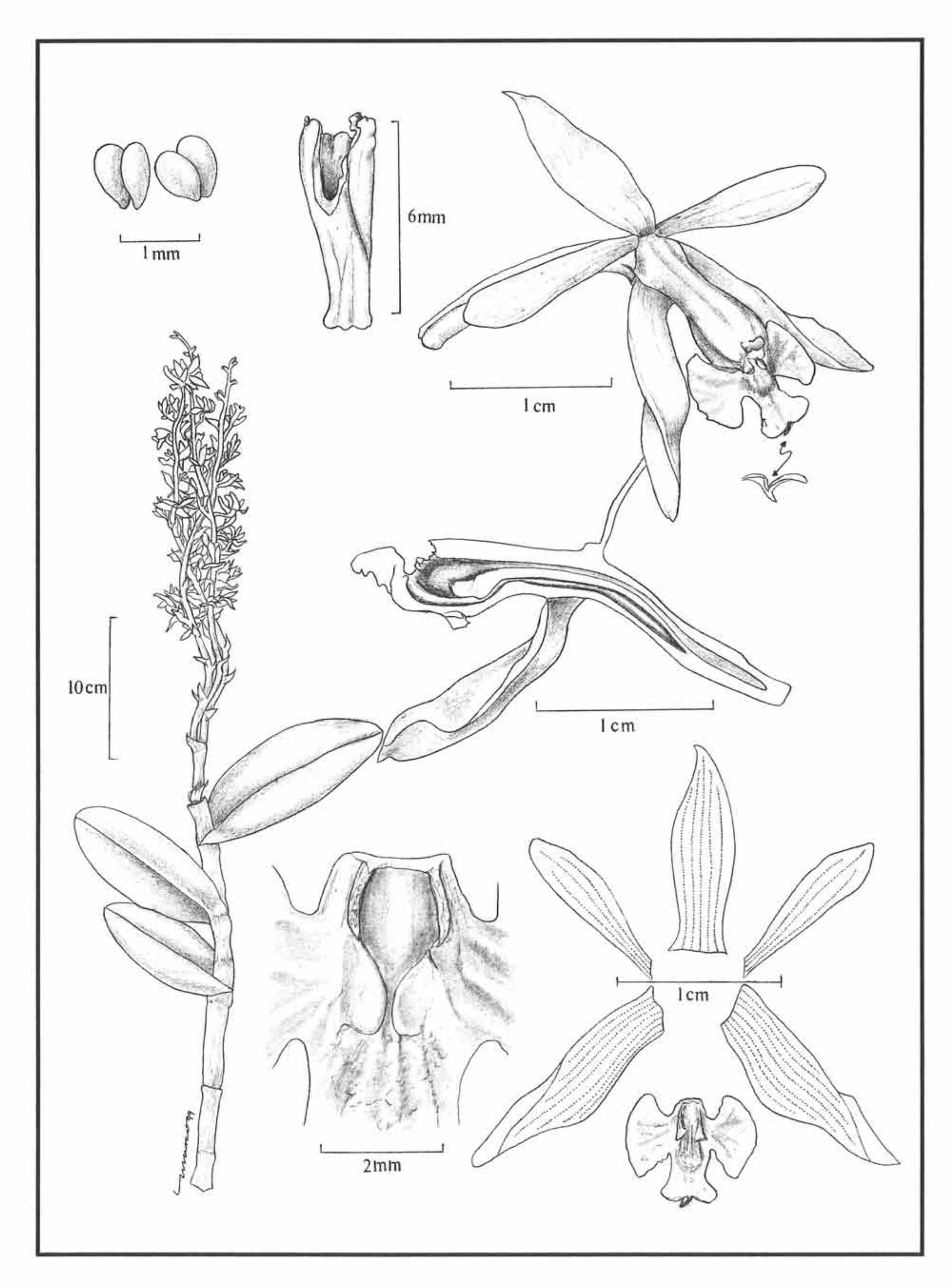


RECOGNITION: *Epidendrum jimburense* belongs to the orgyale subgroup of the cernuum group and has a branching habit, subcoriaceous, bilobed to obtuse leaves, erect, racemose inflorescence, non-resupinate flowers with a cordate, bilobed lip; the sepals are 14-20 mm long and the petals and lip clearly erose-dentate, the petals 3-veined. *Epidendrum orgyale* Lindl. has 13 mm long sepals, petals linear-spathulate, serrulate, and lip deeply cordiform, apiculate, margins serrulate, 6 x 8 mm. *Epidendrum quadrangulatum* A.D. Hawkes has sepals 11-14 x 5 mm, petals oblanceolate-cuneate, rounded, minutely denticulate, veins branching above, and the lip quadrate, apex broadly rounded, serrulate, undulate. *Epidendrum pallatangae* Schltr. has sepals 14-16 mm, clinandrium large, erose, petals obtrullate, rounded, entire, 3-veined, and the lip cordiform with prominent keels.

CONSERVATION STATUS: DD. Data deficient.

ETYMOLOGY: In reference to the town of Jimbura, near which the type was collected.

Authors: E. Hágsater & C. H. Dodson **Illustrator: M. López R.** **Editors: E. Hágsater & L. Sánchez S.**
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EPIDENDRUM KANEHIRAE Hágsater

Plate 450

EPIDENDRUM KANEHIRAE Hágsater, *sp. nov.*

Type: PERU: [Huánuco]: Between Huánuco and Pampayacu, Pampayacu, 28 Jan. 1927, ***Ryozo Kanehira 309.*** Holotype: AMES 33866! (illustration voucher).

Epidendro betimiano Barb. Rodr. affine sed perianthii segmentis longioribus angustioribusque, disco 3 venas incrassatas ferenti discrepans.

Hierba de más de 62 cm de alto. **Raíces** no vistas. **Tallos** sencillos, tipo caña, lateralmente comprimidos, rectos, 30+ x 0.7-1.3 cm. **Hojas** 5 o más, distribuidas en la mitad apical del tallo, coriáceas; vainas tubulares ancipitosas, estriada en seco, 30-48 x 10-13 mm; lámina oblongo elíptica, ápice retuso, dorsalmente carinada, margen entero, 12-17.5 x 4.5-5.1 cm. **Espata** ausente. **Inflorescencia** apical, arqueada, paniculada, 32 cm de largo; pedúnculo ligeramente comprimido lateralmente, 4 cm de largo, provisto de una bráctea ovada, acuminada, 13 mm de largo. **Bráctea floral** del largo del ovario, triangular ovada, aguda, 7-11 x 3-5 mm. **Flores** ca. 100, simultáneas, resupinadas, color y fragancia no registradas. **Sépalos** libres elípticos, estrechados cerca de la base, agudos, margen entero; el **dorsal** extendido, 5-nervado, 12 x 3-4 mm; los **laterales** entreabiertos, oblícuIos, aristados por una quilla prominente dorsal, 7-nervados, 13-16 x 3.5 mm. **Pétalos** extendidos, oblanceolados, redondeados, margen entero, 3-nervados, 11 x 2.5 mm. **Labelo** unido a la columna, carnoso, base cordada, trilobado, 6.7 x 8 mm; bicalloso, callos laminares, el disco con 3 venas engrosadas no muy evidentes; lóbulos laterales dolabriformes, márgenes ligeramente ondulados; lóbulo medio obcuneado, ápice retuso. **Columna** recta, gruesa, 6-7 mm de largo. **Clinandrio** reducido, algo sinuoso. **Antera** no vista. **Polinios** 4, obovoides, lateralmente comprimidos. **Rostelo** apical, hendido. **Nectario** penetrando la mitad del ovario, ligeramente inflado, no ornamentado. **Cápsula** no vista.

Stems simple, cane-like, laterally compressed, straight. **Leaves** coriaceous, sheath tubular, ancipitose, blade oblong-elliptic, apex retuse. **Inflorescence** apical, paniculate, arching, peduncle somewhat compressed, with an ovate, acuminate bract, densely flowered. **Floral bract** as long as the ovary, triangular-ovate, acute. **Flowers** ca. 100, simultaneous, resupinate. **Sepals** elliptic, narrowed near the base, acute, 5-veined, the laterals prominently dorsally keeled and aristate, 7-veined. **Petals** oblanceolate, rounded, 3-veined. **Lip** united to the column, fleshy, cordate, 3-lobed, bicallose, the calli laminar, disc with 3 thickened veins, lateral lobes dolabriform, margins undulate, midlobe obcuneate, apex retuse. **Column** straight, thick. **Clinandrium** reduced, somewhat sinuous. **Nectary** penetrating half the ovary, unornamented.

OTHER SPECIMENS: None seen.

DISTRIBUTION AND ECOLOGY: Known only from the type collection along the upper Río Huallaga, between the Cordillera Oriental of the Andes and the Cordillera Azul, at about 1000 m altitude. Flowering in January.

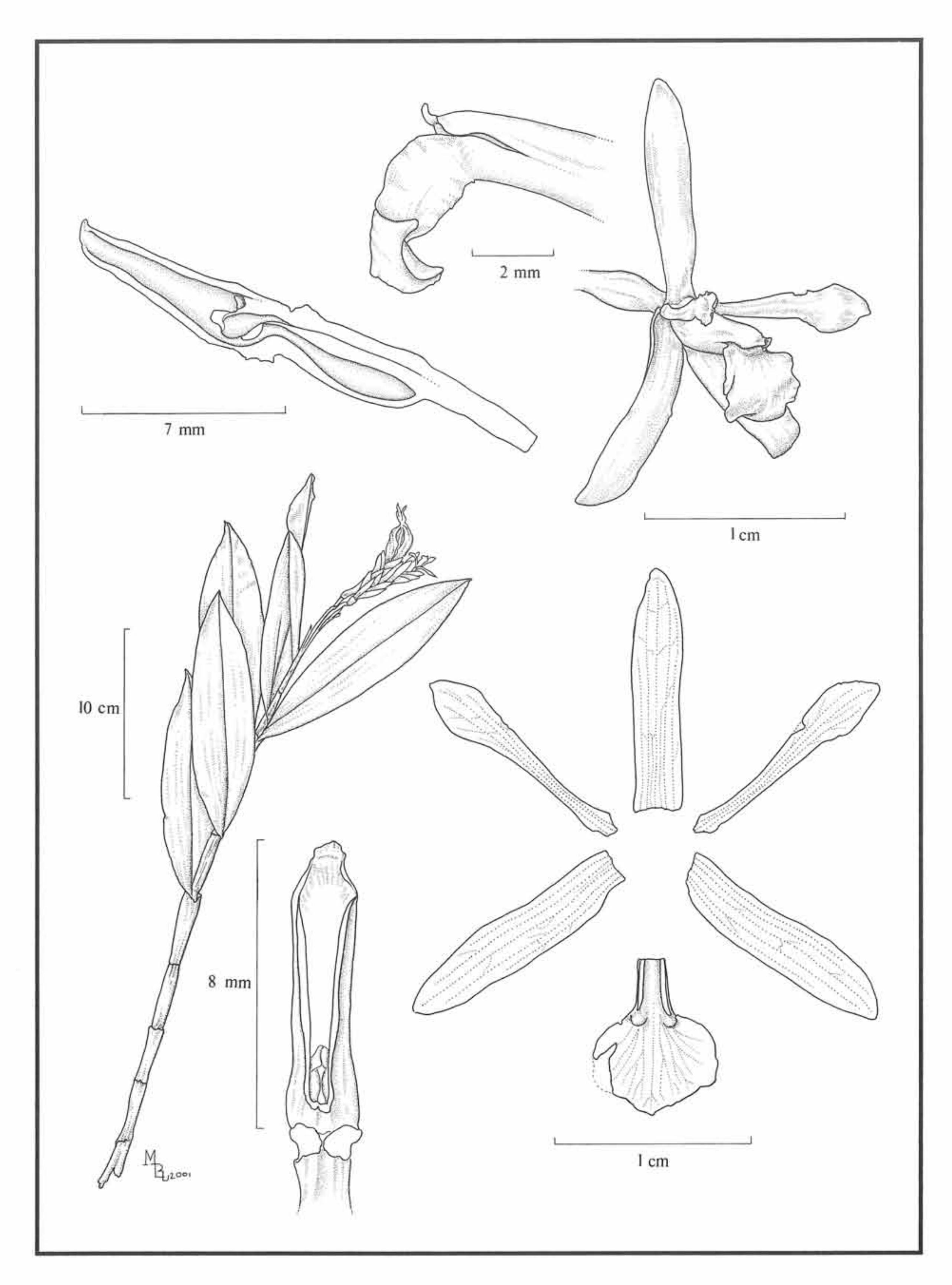
RECOGNITION: Closely related to *Epidendrum betimainum* Barb. Rodr. in the coronatum group, it has simple canes, fleshy leaves, no spathe, an arching, paniculate inflorescence with numerous fleshy flowers, the sepals elliptic, narrowed near the base, the laterals prominently keeled dorsally, and the 3-lobed lip with dolabriform lateral lobes, a cuneate, retuse midlobe and the calli laminar, the disc with very low radiating fleshy veins. *Epidendrum betimianum* has shorter, wider sepals, and a single keel between the two calli.

CONSERVATION STATUS: DD. Data deficient.

ETYMOLOGY: In honor of the Japanese collector Ryozo Kanehira, who collected the type in the area of Huánuco in January 1927. His material is deposited mainly at AMES, BISH and FU.



Authors: E. Hágsater **Illustrator: M. López R.** **Editors: E. Hágsater & L. Sánchez S.**
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EPIDENDRUM LAGENOMORPHUM Hágsater & Dodson

Plate 451

EPIDENDRUM LAGENOMORPHUM Hágsater et Dodson, *sp. nov.*

Type: ECUADOR: Carchi: Region of Lita on railroad from Ibarra to San Lorenzo, 600 m, 15 Aug. 1986. ***A. Hirtz 2933.*** Holotype: MO! (illustration voucher).

Epidendro gentryi Dodson similare sed sepalis petalisque angustioribus, ovario breviore, labello suborbiculari duos callos subglobosos ad basem ferenti et columnae corpore proportione breviore differt.

Hierba cespitosa, erecta, de 43 cm de alto. **Raíces** basales, delgadas, carnosas, 0.3-0.8 mm de grosor. **Tallos** sencillos, tipo caña, terete, algo engrosado en la parte media, 28-32 x 0.33-0.75 cm. **Hojas** 3-5, distribuidas hacia el tercio apical del tallo, semejantes entre sí; vainas tubulares, ligeramente estriadas cuando secas, las basales con el tiempo caedizas, 1.75-4.75 cm de largo; lámina elíptica, acuminada, quillada dorsalmente, margen entero, 13.3-18.0 x 3.4-4.0 cm. **Espata** ausente. **Inflorescencia** apical, del crecimiento maduro, produciendo racimos nuevos, racemosa compuesta, suberecta, 11-15.5 cm de largo; pedúnculo terete, 6 cm de largo, completamente oculto por dos o más brácteas prominentes, conduplicadas, agudas, hasta de 5.5 x 0.6 cm. **Brácteas florales** más largas que el ovario, elípticas, agudas a redondeadas, conduplicadas, imbricadas, fibrosas con el tiempo, 12-19 mm de largo. **Flores** 13-15, sucesivas, una desarrollada a la vez por racimo, verdes, sin datos de fragancia. **Ovario** terete, inflado ventralmente en la mitad apical, formando una vesícula, no ornamentado, 9 mm de largo. **Sépalos** entreabiertos, libres, oblongos, redondeados, margen extendido y entero, 5-nervados, 12.5-12.9 x 2.5-2.9 mm. **Pétalos** entreabiertos, libres, angostamente obtrulados oblanceolados, subespatulados, obtusos, margen extendido y entero, 3-nervados, 12.0 x 2.5 mm. **Labelo** unido a la columna incluyendo el clinandrio, entero, suborbicular, margen irregular, 5.2 x 6.2 mm; bicalloso, los callos pequeños, subglobosos; disco desprovisto de quillas. **Columna** recta, 8 mm de largo incluyendo el clinandrio, el cuerpo de la columna ca. 2.5 mm de largo. **Clinandrio** prominente, sobrepasando marcadamente el cuerpo de la columna formando un tubo alargado con el labelo. **Antera** no vista. **Polinios** no vistos. **Rostelo** hendido. **Lóbulos laterales del estigma** prominente, de ½ del largo de la cavidad estigmática. **Nectario** de ½ del largo del ovario, ensanchado, formando una vesícula en la parte media apical del ovario. **Cápsula** elipsoide, con el perianto persistente, 29 x 3.4 mm; pedicelo corto, 2 mm de largo; cuello apical ausente.

Caespitose, erect **herb. Roots** basal, thin, fleshy. **Stems** simple, cane-like, terete, thickened towards the middle. **Leaves** 3-5, distributed along the upper third of the stem, similar, sheaths tubular; blade elliptic, acuminate. **Spathe** absent. **Inflorescence** apical, producing new racemes, compound racemose, suberect; peduncle terete, about half as long as the apical leaf, completely covered by prominent, conduplicate, acute bracts. **Floral bracts** longer than the ovary, elliptic, acute to rounded, conduplicate, imbricate. **Flowers** 13-15, developing one at a time per raceme, green. **Ovary** terete, inflated ventrally in the apical half, forming a vesicle. **Sepals** partly spreading, oblong, rounded, 5-veined. **Petals** partly spreading, narrowly obtrullate-oblanceolate, subspathulate, obtuse, 3-veined. **Lip** united to the column including the prominent clinandrium, entire, suborbicular, with a pair of subglobose calli at the base. **Column** straight, forming an inflated structure with the very long **clinandrium** which is united to the lip, the column body about one fourth the overall length. **Nectary** penetrating half the ovary, inflated. **Capsule** ellipsoid, pedicel short, apical neck lacking.

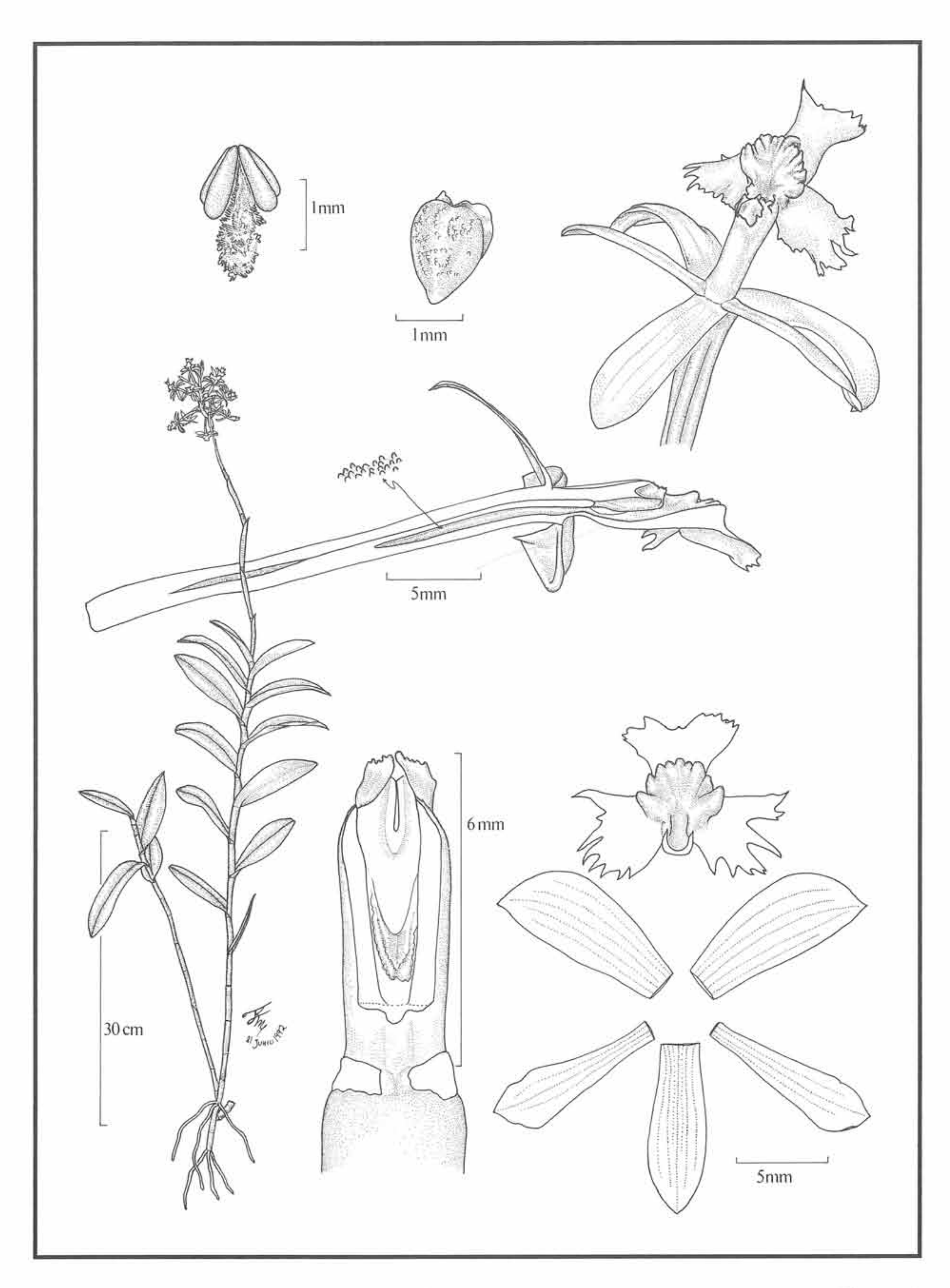
OTHER SPECIMENS: ECUADOR: El Oro: 11 km west of Piñas on road to Santa Rosa, 850 m, *Dodson et al. 9014*, SEL!

OTHER RECORDS: COLOMBIA: Chocó: Bahía Solano, *G. Misas 35*, illustration and xerox AMO! **ECUADOR: El Oro:** 11 km west of Piñas on road to Santa Rosa, 850 m, *Dodson et al. 9014* (not *Dodson 7262)*, illustration in **Icones Pl. Trop.** 5: pl. 427. 1982.
DISTRIBUTION AND ECOLOGY: Widespread along the lower Pacific slope of the Andes from northern Colombia to southern Ecuador, at around 500-850 m altitude, epiphytic in very wet tropical forests. Flowering in August and October, probably throughout the year. Fruiting also throughout the year.

5

RECOGNITION: *Epidendrum lagenomorphum* belongs to the allenii subgroup of the albertii group, recognized by the laterally compressed stems, numerous leaves, apical inflorescence with a usually ancipitose peduncle and the compact racemes of successive flowers with inflated, conduplicate bracts. The species has stems somewhat thickened towards the middle, the terete peduncle about half as long as the apical leaf and completely covered by conduplicate bracts, the floral bracts 12-15 mm long, narrowly rounded, ovary prominently inflated ventrally at the apical half, the body of the column short (occupying about ¼ of the total length) but the very prominent clinandrium forming a tube with the lip, the lip suborbicular, with two small rounded calli at the base, petals narrowly oblanceolate-obtrullate-spathulate. It closely resembles *E. gentryi* Dodson, from the Amazon side of the Andes near Puyo, which has wider petals, a subtrullate lip, with the clinandrium proportionately shorter, that is, about twice as long as the body of the column.
ETYMOLOGY: From the Greek λαγυνος, flask, and μορφη, form, in reference to the basally inflated column terminating in the very long clinandrium, which forms a long tube with the lip, and thus flask-shaped.
NOTES: This species was illustrated in **Icones Pl. Trop.** 5: pl. 427 as *Epidendrum gentryi*. The illustration is misleading in that the extended inflorescence is in reality a short peduncle with a compact raceme of imbricate bracts with successive flowers, the leaves on the voucher are clearly elliptic, not lanceolate as the illustration suggests.

Authors: E. Hágsater & C. H. Dodson **Illustrator: M. López R.** **Editors: E. Hágsater & L. Sánchez S.**
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EPIDENDRUM LAURELENSE Hágsater & Dodson

Plate 452

EPIDENDRUM LAURELENSE Hágsater et Dodson, *sp. nov.*

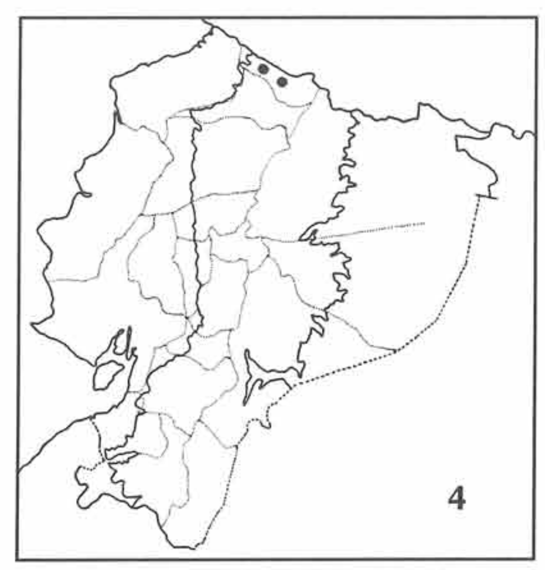
Type: ECUADOR: Carchi; Municipio Tulcán, km 8.3 al E de Maldonado, hacia Tulcán, 0°54'N 78°06'W, 2035 m, litófita en talud de rocas cubiertas por musgo, col. 30 abril 1993, prensado 24 junio 1993, ***E. Hágsater 11318 et al.*** Holotype: QCNE! (illustration voucher). Topotype: *E. Hágsater 11317 et al.* AMO!

Epidendro vinoso Schltr. simile sed floribus minoribus intense rubris, labelli lobulo medio emarginato sinum latum apiculatumque ferenti divergens.

Hierba terrestre, subcespitosa, ca. 180 cm de alto. **Raíces** basales, carnosas, 2-3.5 mm de grosor. **Tallos** sencillos, tipo caña, teretes, rectos, los tallos nuevos producidos del 5-6 entrenudo del tallo anterior (a unos 6 cm de la base) y en ángulo recto, 30-100 x 0.4-0.9 cm. **Hojas** numerosas, distribuidas a lo largo de los 2/3 apicales del tallo, coriácea; vainas tubulares, finamente estriadas al secarse después de perder la hoja, verde, 2-4 cm de largo; lámina oblonga, ápice bilobado, anverso finamente rugoso, verde, 7-11 x 2.4-3.5 cm. **Espata** ausente. **Inflorescencia** apical, del tallo maduro, racemosa, erecta, ca. 75 cm de largo; produciendo nuevos racimos de los nudos superiores del pedúnculo, los racimos de 5-9 cm de largo; pedúnculo alargado, terete, recto, cubierto por brácteas tubulares, no imbricadas. **Brácteas florales** mucho más cortas que el ovario, triangulares, agudas, 2-6.5 mm de largo. **Flores** numerosas, sucesivas, alrededor de 12 abiertas a la vez con los botones en diversos estados de desarrollo, no resupinadas, color rojo carmín, ápice de columna amarilla alrededor de la antera verde, callo blanco, sin fragancia. **Ovario** más grueso que la columna, terete, no inflado, rojo carmín pálido, 24-30 x 1.5-2 mm. **Sépalo dorsal** extendido, obovado, obtuso, un poco recurvado, sin quilla dorsal, membranáceo, 5-nervado, 9.5-10.5 x 3.5 mm. **Sépalos laterales** entreabiertos, obovados, oblicuos, agudos, recurvados, sin quilla dorsal, membranáceos, 5-nervados, 10.5-12 x 4.5 mm. **Pétalos** extendidos, angostamente oblanceolados, espatulados, obtusos, membranáceos, margen en el 1/3 apical irregular, sin quilla dorsal, 3-nervados, las nervaduras laterales ramificadas, 10-10.5 x 3 mm. **Labelo** unido a la columna, trilobado, más ancho entre los lóbulos laterales, membranáceo, 8.5-9.5 x 12 mm; callo complejo, formado por un plato semicircular, sulcado, marginalmente plurilobulado, carnoso, más ancho que el istmo; sin quillas; lóbulos laterales cuneados, con margen profundamente laciniados; lóbulo medio más pequeño que los laterales, emarginado, con un apículo pequeñísimo, irregularmente dentado. **Columna** recta, delgada, terminada en dos dientes amarillos que se funden con el callo, 6.5-7.5 mm de largo. **Clinandrio** reducido, entero. **Antera** ovoide, aguda, papilosa al frente, 4-locular. **Polinios** 4, obovoides, lateralmente comprimidos; caudículas más largas que los polinios, las tétradas dispuestas como tejas; viscidio semilíquido, transparente. **Rostelo** apical, hendido. **Lóbulos laterales del estigma** de 1/3 del largo de la cavidad estigmática. **Nectario** cerca 1/2 del ovario, ornamentado con papilas hemisféricas. **Cápsula** no vista.

Terrestrial, subcaespitose **herb. Stems** erect, reed-like, terete, straight, arising at right angle from the 5-6th internode of the previous stem. **Leaves** distributed throughout the apical 2/3 of the stems, coriaceous; sheath tubular, finely striate when dry; blade oblong, apex bilobed. **Inflorescence** apical, from the mature stem, erect, long-pedunculate, racemose, producing successive racemes from the apical nodes of the peduncle during several years. **Flowers** successive, around 12 open at one time, non-resupinate, carmine-red, the apex of the column around the anther yellow, callus white. **Dorsal sepal** spreading, obovate, obtuse, 5-veined; the **laterals** oblique, acute. **Petals** narrowly oblanceolate-spathulate, obtuse, the apical margins irregular, 3-veined, the lateral veins branching. **Lip** united to the column, 3-lobed; calli complex, formed by a semicircular sulcate, marginally plurilobulate fleshy plate; without keel; lateral lobes cuneate, deeply laciniate; the midlobe smaller than the lateral ones, emarginate, apical margin dentate. **Column** straight, thin, ending in two lateral teeth which can be confused with the callus of the lip. **Clinandrium** reduced, entire. **Anther** ovoid, 4-celled. **Pollinia** 4, obovoid, laterally compressed; caudicles longer than the pollinia, with tetrads arranged like roof-tiles; viscidium semiliquid, transparent. **Rostellum** apical, slit. **Nectary** penetrating nearly 1/2 of the ovary, with hemispherical papillae inside.

OTHER SPECIMENS: ECUADOR: Carchi: *Madison 7036 et al.* SEL!



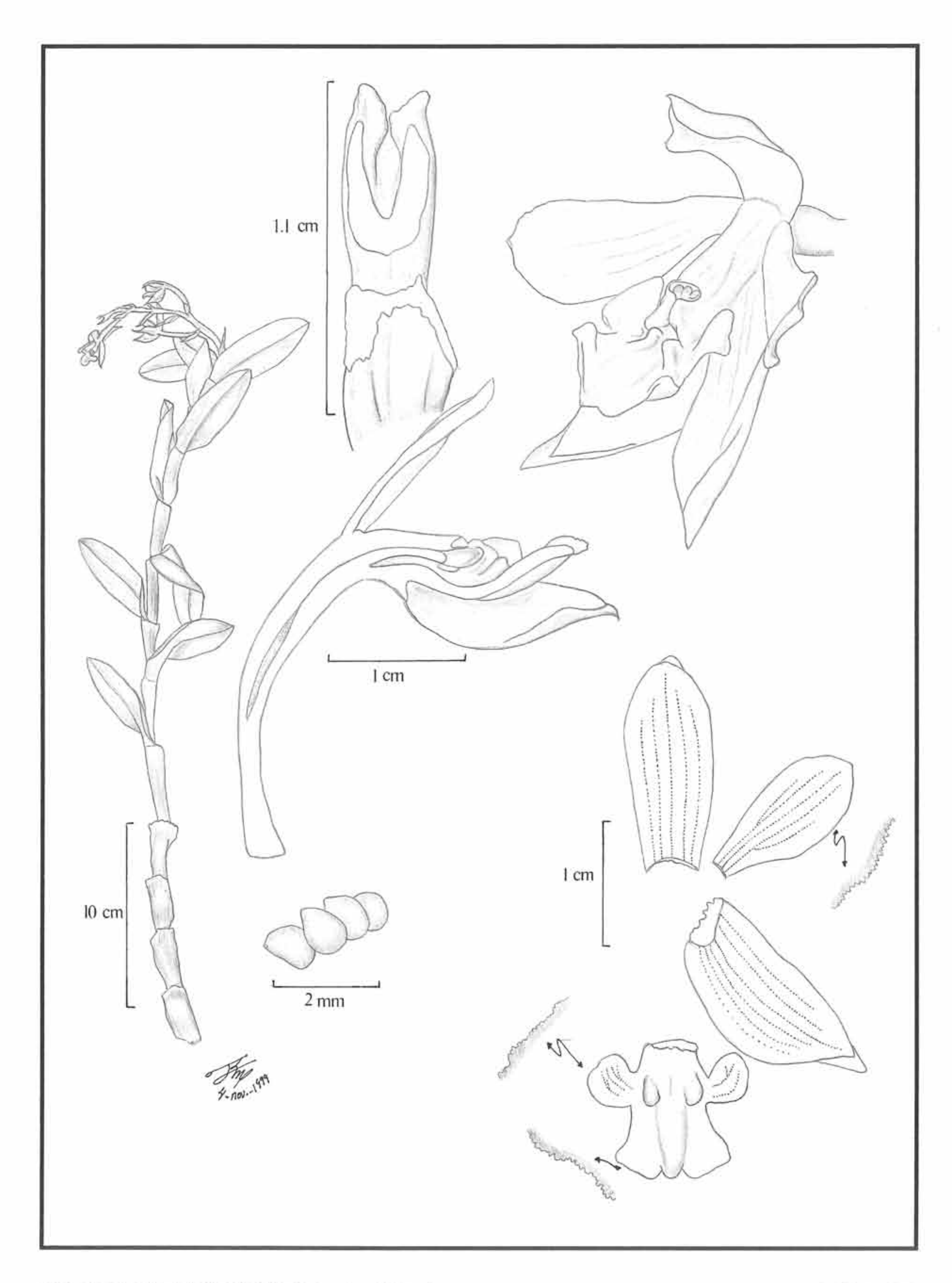
DISTRIBUTION AND ECOLOGY: Known from the road between Tulcán and Maldonado, along the border between Ecuador and Colombia, on roadsides and rocks in wet forest between 1400 and 3000 m altitude. Flowering April-June and probably longer.

RECOGNITION: *Epidendrum laurelense* belongs to the secundum group, (non-resupinate flowers, complex callus) and can be recognized by the carmine-red flowers with a massive white callus; the plant is subcaespitose, with thick roots and the new stems arising somewhat up the previous stem and at right angles, the various open flowers give the inflorescence a spherical shape. *Epidendrum vinosum* Schltr. has larger flowers (sepals ca. 15 mm long) and the lip forming a three-cornered structure with the lateral lobes retrorse, the flowers are bronzy pink, with the callus large, prominent and white.

CONSERVATION STATUS: DD. Data deficient.

ETYMOLOGY: After the ranchería of El Laurel, about halfway between Tulcán and Maldonado.

Authors: E. Hágsater & C. H. Dodson **Illustrator: R. Jiménez M.** **Editors: E. Hágsater & L. Sánchez S.**
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EPIDENDRUM LAWESSONII Hágsater & Dodson

Plate 453

EPIDENDRUM LAWESSONII Hágsater et Dodson, *sp. nov.*

Type: ECUADOR: Tungurahua Trail from Baños to refugio of Tungurahua, 2000-3800 m, 1°27'S 78°27'W, 2 June 1983, ***J. E. Lawesson, T. Læssø & P. M. Jørgensen 44181.*** Holotype: AAU! (illustration voucher).

Epidendro sumacoënsi Hágsater & Dodson simile sed petalis trinervatis, labelli lobulis lateralibus suborbicularibus, lobuli medio isthmum latum obcuneatum ferenti, lobulis apicalibus latis brevibusque recedens.

Hierba epífita, erecta, ramificada, de más de 45 cm de alto. **Raíces** no vistas. **Tallos** ramificados, tipo caña, lateralmente comprimidos; 35 x 0.6-1.0 cm. **Hojas** numerosas, distribuidas a lo largo de los tallos, alternas; vaina tubular, estriada,, rugosa, lateralmente aplanada, 2.9-3.3 x 0.6-1.0 cm; lámina elíptica, desigualmente bilobada, retusa, margen entero, subcoriácea; 5-6 x 1.8-2.5 cm. **Espata** ausente. **Inflorescencia** apical, racemosa, arqueada, florece una sola vez, 8 cm de largo; pedúnculo reducido, terete, no ornamentado, provisto de una bráctea de 16 mm de largo en la parte media. **Brácteas florales** más cortas que el ovario, triangulares, acuminadas, 10-15 mm de largo. **Flores** 9, simultáneas, resupinadas, color blanco a crema, fragancia no registrada. **Ovario** terete, no inflado, no ornamentado, 23-27 mm de largo. **Sépalos** entreabiertos, libres, con una quilla dorsal, aristados, margen entero, carnosos, 5-nervados; el **dorsal** oblongo obovado, acuminado, 17 x 6.5 mm, los **laterales** oblongo elípticos, acuminados, oblicuos, 19 x 7.5 mm. **Pétalos** entreabiertos, libres, obovados, obtusos, margen apical finamente eroso, 3-nervados, las nervaduras laterales bifurcadas debajo de la mitad, 13 x 6 mm. **Labelo** unido a la columna, trilobado, cordado, 10-13 mm; bicalloso, los callos lateralmente comprimidos; con una carina central roma, margen entero; lóbulos laterales pequeños, suborbiculares, retrorsos, lóbulo medio obcuneado, cortamente bilobado, con un apículo grueso en el seno, istmo ancho, margen apical finamente eroso. **Columna** recta, 10 mm de largo, terminando a los lados con lobos prominentes, oblicuamente truncados. **Clinandrio** corto, entero. **Antera** reniforme, 4-locular. **Polinios** 4, obovoides, subiguales. **Rostelo** subapical, hendido. **Lóbulos laterales del estigma** de la mitad de largo de la cavidad estigmática. **Nectario** poco profundo, sin traspasar el perianto, no ornamentado. **Cápsula** no vista.

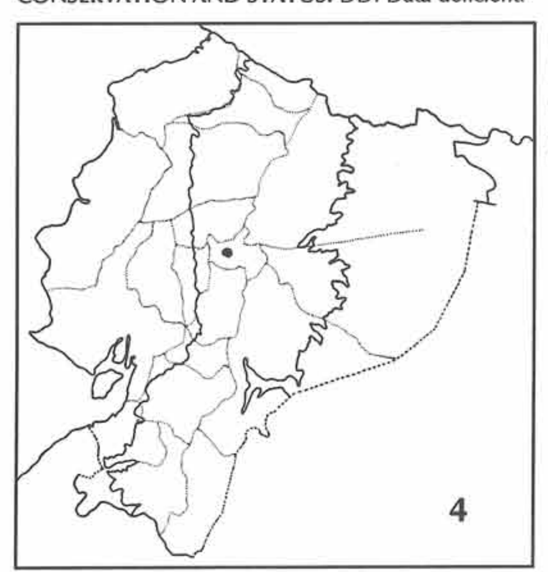
Epiphytic, erect, branching **herb. Stems** cane-like, erect, laterally compressed, branching above. **Leaves** numerous; sheaths tubular, laterally compressed, striated and rugose; blade elliptic, unequally bilobed, retuse. **Inflorescence** apical, racemose, arching. **Floral bracts** shorter than the ovary, triangular, acute. **Flowers** 9, resupinate, white to creamish. **Sepals** partly spreading, free, oblong-ovate to elliptic, acuminate, aristate, fleshy, 5-veined. **Petals** obovate, rounded, 3-veined, the lateral veins bifurcate below the middle, apical margin minutely erose. **Lip** 3-lobed, base cordate, bicallose, calli laterally compressed, with a low keel, apical margin minutely erose; lateral lobes small, suborbicular, retrorse, midlobe obcuneate, shortly bilobed, with a wide mucro in the sinus, isthmus wide. **Clinandrium** short, entire. **Nectary** not surpassing the perianth.

OTHER SPECIMENS: None seen.

DISTRIBUTION AND ECOLOGY: Known only from central Ecuador, from the slopes of the Tungurahua volcano, somewhere between 2000-3800 m altitude. In montane forest. Flowering in June.

RECOGNITION: *Epidendrum lawessonii* belongs to the cernuum group sumacoënse complex recognized by the branching stems, the bilobed leaves, 3-lobed lip, the midlobe bilobed; the species has aristate sepals, small, suborbicular lateral lobes, the midlobe obcuneate, forming two short rectangular lobes with a wide mucro in the sinus, the short entire clinandrium, and 3-veined petals. *Epidendrum sumacoënse* Hágsater & Dodson also has aristate sepals, petals 1-veined, but the lateral lobes of the lip are dolabriform, and the midlobe of the lip has a long narrow, rectangular isthmus, and the apical lobes narrower.

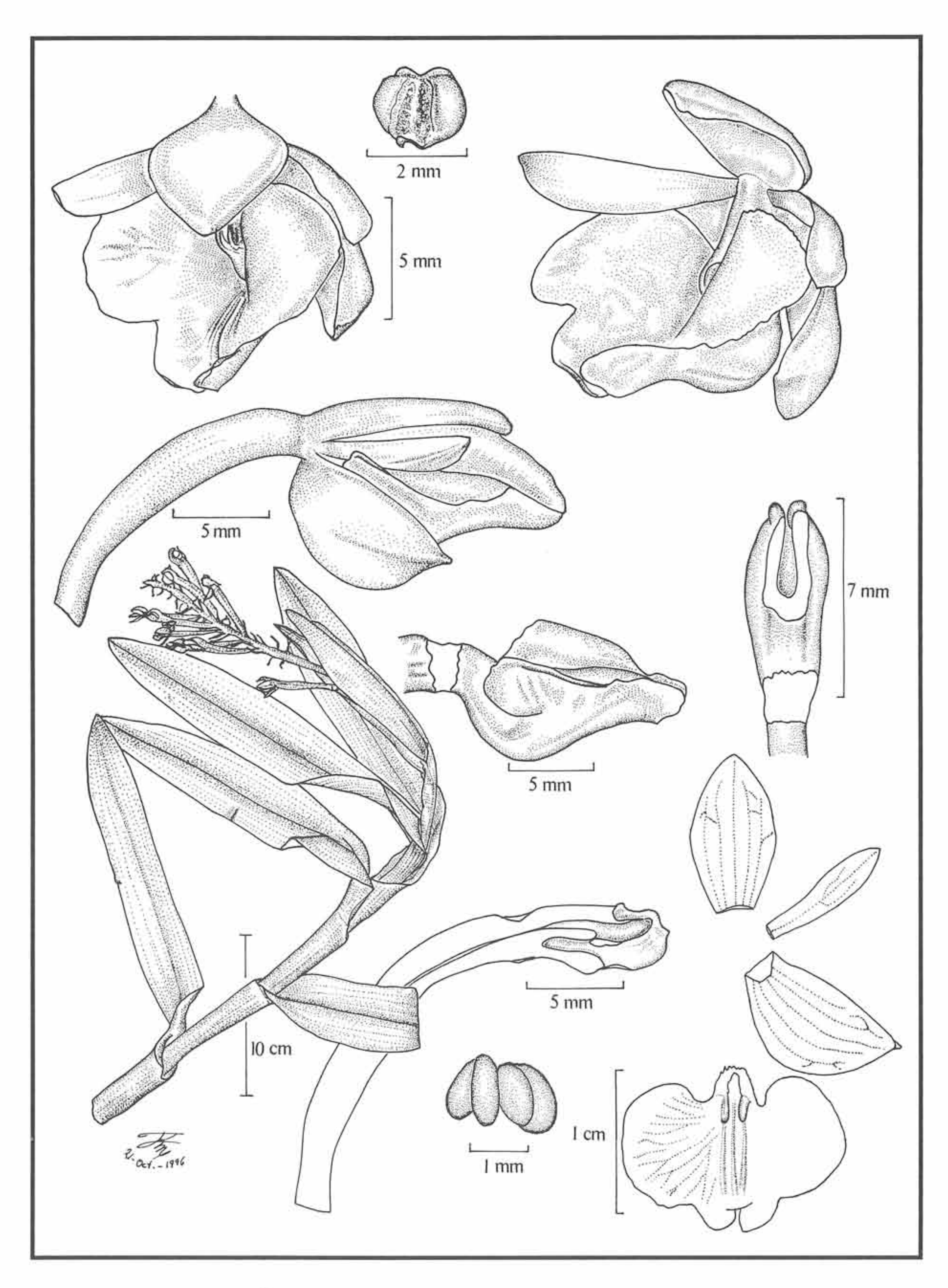
CONSERVATION AND STATUS. DD. Data deficient.



ETYMOLOGY: In honor of J. E. Lawesson, Danish botanist who participated in the collection of the type for the Flora of Ecuador project.

NOTE: The description is drawn from incomplete specimens, probably from branches, thus the size of leaves and stems may not represent those of the main stem.

Authors: E. Hágsater & C. H. Dodson **Illustrator: R. Jiménez M.** **Editors: E. Hágsater & L. Sánchez S.**
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EPIDENDRUM LLAVIUCOËNSE Hágsater & Dodson

Plate 454

EPIDENDRUM LLAVIUCOËNSE Hágsater et Dodson, *sp. nov.*

Type: ECUADOR: Azuay: Las Cajas: Near Laguna Llaviuco, 2°49'S 79°11'W, 3100-3200 m, 12 Sep. 1983, ***B. Boysen Larsen & B. Eriksen 45090.*** Holotype: AAU! (illustration voucher).

Epidendro klotzscheano Rchb. f. simile sed labello ambitu reniformi, lobulo medio parvo lato et profunde emarginato differens.

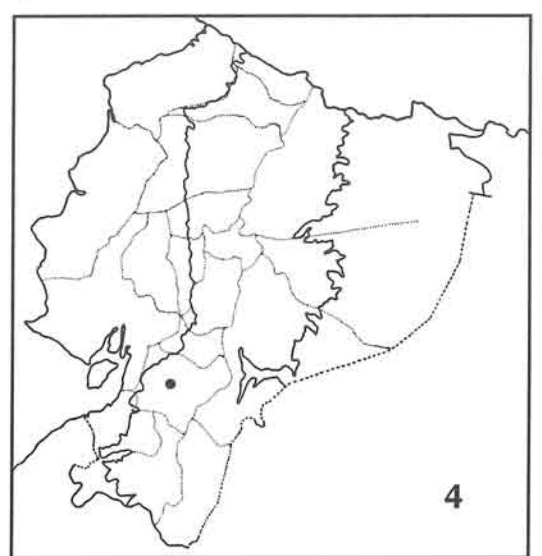
Hierba epífita, erecta, 100-150 cm de alto. **Raíces** no vistas. **Tallo** sencillo, tipo caña, recto, terete, 85-125 x 1.0-1.7 cm. **Hojas** numerosas, alternas, articuladas, aparentemente distribuidas a lo largo del tallo; vainas tubulares, estriadas en seco, 3.5-8.7 x 1.0-1.7 cm; lámina elíptica, obtusa, margen diminutamente dentado hacia el ápice, subcoriacea, 20-24 x 3.2-4.5 cm. **Espatas** 2, prominentes, agudas, abrazadoras, cubriendo todo el pedúnculo y la parte basal del raquis, 11-17 x 1.6-2.5 cm. **Inflorescencia** apical, de tallo maduro, florece una sola vez, racemosa a paniculada, (el racimo principal presenta un pequeño racimo corto dentro de las espatas) arqueado nutante, el racimo con flores y numerosos frutos jóvenes simultáneamente, 24 cm de largo; con una bráctea prominente (ca. 4 cm de largo) en la base de la rama, pedúnculo terete, 7 cm de largo. **Brácteas florales** más largas a mucho más cortas que el ovario, triangulares, largamente acuminadas, filiformes, 3-16 mm de largo. **Flores** ca. 53, simultáneas, resupinadas, blancas a verde pálido, con estrías púrpuras en la parte externa; fragancia no registrada. **Ovario** terete, no ornamentado, no inflado, 14.5 mm de largo, se alarga notablemente al fecundarse la flor. **Sépalos** entreabiertos, libres, elípticos, obtusos, margen extendido y entero, no ornamentados, 5-nervados, 10.6-11.3 x 5.8-6.5 mm; los **laterales** oblicuos, carinados hacia el ápice. **Pétalos** entreabiertos, libres, oblanceolados, obtusos, margen extendido, entero, 1-nervados, cortamente ramificados hacia su parte media, 9.6 x 2.4 mm. **Labelo** unido a la columna, trilobado, reniforme, con un pequeño lóbulo apical bilobado, base cordada, 10.3 x 15.5 mm; bicalloso, callos pequeños, delgados; disco provisto de 3 quillas delgadas; lóbulos laterales suborbiculares, redondeados, margen entero, 6.8 x 8.6 mm; lóbulo medio significativamente más pequeño que los laterales, profundamente emarginado y por lo tanto bilobado, los lobos semiorbiculares, 1.7 x 5.8 mm. **Columna** recta, gruesa, corta, 7 mm de largo. **Clinandrio** reducido, entero. **Antera** reniforme, 4-locular. **Polinios** 4, obovoides, lateralmente comprimidos, subiguales. **Rostelo** apical, hendido. **Lóbulos laterales del estigma** de 1/2 del largo de la cavidad estigmática. **Nectario** sin traspasar el perianto, no ornamentado. **Cápsula** 35-40 mm de largo cuando joven.

Epiphytic **herb. Stem** tall, cane-like, terete. **Leaves** numerous, sheath tubular, blade elliptic, obtuse, margin minutely dentate towards the apex, subcoriaceous. **Spathes** 2, prominent, acute, embracing the peduncle and part of the rachis. **Inflorescence** apical, racemose to paniculate (with a short branch within the spathes), arching-nutant, with flowers and numerous young fruits simultaneously, peduncle terete. **Floral bracts** much longer to much shorter than the ovary, triangular, long-acuminate, filiform. **Flowers** simultaneous, resupinate, white to pale green with purple stripes on the outside. **Ovary** terete, elongating rapidly after pollination. **Sepals** partly spreading, elliptic, obtuse, 5-veined, the laterals oblique, apically carinate. **Petals** partly spreading, oblanceolate, obtuse, 1-veined. **Lip** three-lobed, reniform in outline with two small apical lobes, bicallose, the calli small, three-keeled; lateral lobes suborbicular, midlobe deeply emarginate, forming two small semiorbicular lobes. **Column** straight, thick, short. **Clinandrium** reduced, entire. **Anther** reniform. **Pollinia** 4, laterally compressed, subequal. **Nectary** not surpassing the perianth.

OTHER SPECIMENS: None seen.

DISTRIBUTION AND ECOLOGY: Known only from southern Ecuador, on the pass of the western Andes, west of Cuenca, at 3100-3200 m altitude, in montane forest. Flowering in August-September and beginning to form several fruits.

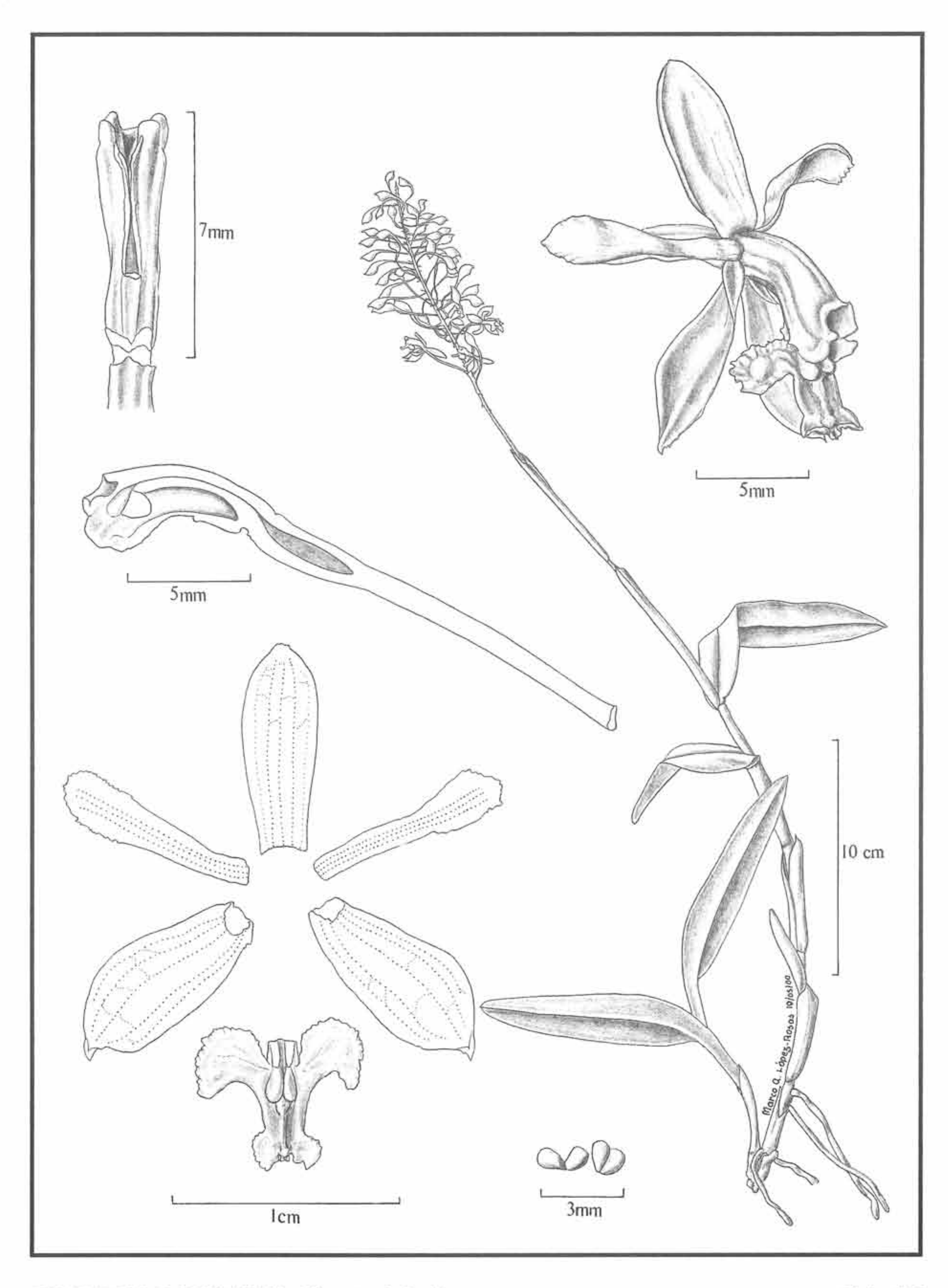
RECOGNITION: *Epidendrum llaviucoënse* belongs to the excisum group, excisum subgroup, with simple, tall stems, prominent spathes; this species, however, has non-conduplicate, acute spathes and a basically racemose inflorescence, with the lip reniform overall, though it has two small apical lobes. From the general appearance of the specimen (excluding the spathes) it looks like *Epidendrum renilabium* Schltr. which has somewhat similar flowers. The non-conduplicate, acute spathes gives it the appearance of *Epidendrum klotzscheanum* Rchb.f., which has completely different flowers, the lip deeply three-lobed, the lateral lobes dolabriform and the midlobe subrectangular and truncate. *Epidendrum orthoclinium* Hágsater & Dodson has a similar habit, but acute leaves, a conduplicate spathe, paniculate inflorescence and narrower floral segments, with the lip shallowly three-lobed, the large midlobe cuneate and widened at the apical half to form a spathulate, suborbicular, apiculate plate, the petals are linear- oblanceolate and acute, and a short, upright clinandrium.



CONSERVATION STATUS: DD. Data deficient. Only one collection has been recorded. The area is reported as disturbed (1983).

ETYMOLOGY: In reference to the type locality, the Laguna Llaviuco.

Authors: E. Hágsater & C. H. Dodson **Illustrator: R. Jiménez M.** **Editors: E. Hágsater & L. Sánchez S.**
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EPIDENDRUM LOEJTNANTII Hágsater & Dodson

Plate 455

EPIDENDRUM LOEJTNANTII Hágsater et Dodson, *sp. nov.*

Type: ECUADOR: Carchi: Road from Playón de San Francisco to El Carmelo, between the summit and El Carmelo, ca. 3000 m, 0°39' N 77°38' W, 14 April 1979, ***B. Løjtnant, U. Molau & M. Madison 12527.*** Holotype: GB! (illustration voucher).

Epidendro diphyllo Schltr. similare sed ovario et columna breviore, petalis trinervatis, labelli lobulo medio semi-elliptico et trilobato discrepans.

Hierba rastrera, epífita, 46 cm de alto. **Raíces** basales, gruesas, 1-2 mm de grosor. **Tallo** producido de los nudos intermedios del tallo precedente, a ca. 10 cm de la base del tallo anterior; erectos, rectos, algo lateralmente comprimidos hacia el ápice, 6-14 x 0.2-0.5 cm; cubierto en la base por 2-3 vainas no foliosas, escariosas, iguales a las foliares, estriadas y finamente rugosas en seco. **Hojas** 2 por tallo, apicales; vaina ancipitosa, 2-4 x 0.4-0.6 cm; lámina angostamente lanceolado elíptica, ápice desigualmente bilobada, aristada, 6-10 x 1.8–2.0 cm. **Espatas** 1-2, tubulares, de lados paralelos, agudas, 6-7 cm de largo. **Inflorescencia** apical, racemosa, 25-26 cm de largo; el pedúnculo erecto, 14-15 cm de largo. **Brácteas florales** mucho más cortas que el ovario, triangulares, agudas, 2-3.5 mm de largo. **Ovario** no ornamentado, terete, no inflado, 12-15 mm de largo. **Flores** más de 50, sucesivas, sépalos amarillos difuminados de ocre, pétalos amarillo verdosos, pálidos, labelo blancusco con pequeños puntos violeta en el ápice, fragancia no registrada. **Sépalos** extendidos, verrucosos dorsalmente, obovados, redondeados, margen entero, 5-nervados, 9.0-10 x 3.2-4.4 mm; los laterales con una quilla dorsal apical. **Pétalos** extendidos, oblanceolados espatulados, redondeados, margen irregularmente dentado en el tercio apical, 3-nervados, 8.5-9.1 x 2.0-2.2 mm. **Labelo** unido a la columna, trilobado, cordado, 6.0 x 7.5 mm; bicalloso, los callos laminares, prominentes, con una quilla central hasta el ápice del lóbulo medio; lobulos laterales falcados, margen crenulado; lóbulo medio obpremorso, el istmo cuneado, el ápice expandido en un par de lobos falcados, semejantes a los laterales pero mucho más pequeños, con un lobo subcuadrado muy pequeño en el ápice. **Columna** arqueda, 5.0-8.0 mm de largo. **Clinandrio** reducido, entero. **Antera** 4-locular, reniforme. **Polinios** 4, obovoides, lateralmente comprimidos. **Nectario** sin penetrar al ovario, no ornamentado. **Cápsula** no vista.

Epiphytic, repent **herb. Stems** cane-like, produced from the middle of the previous stem, laterally compressed above. **Leaves** 2, apical, narrowly lanceolate-elliptic, unequally bilobed, aristate. **Spathes** 1-2, tubular, parallel sided, acute. **Inflorescence** apical, racemose; peduncle erect. **Floral bracts** much shorter than the ovary, triangular, acute. **Ovary** unornamented, terete, not inflated. **Flowers** 50 or more, successive, sepals yellow with ochre spots, petals pale greenish-yellow, lip whitish with violet dots. **Sepals** spreading, verrucose, obovate, rounded, margin entire, 5-veined; the laterals with a prominent keel. **Petals** spreading, oblanceolate-spatulate, rounded, margin unequally dentate, 3-veined. **Lip** united to the column, three-lobed; bicallose, the calli prominent, with a prominent intermediate keel; lateral lobes falcate, margin crenulate; midlobe obpraemorse, three-lobed, isthmus cuneate, apex expanded into a pair of falcate lobes similar to the laterals but much smaller, with a very small subquadrate lobe at the apex. **Column** arched. **Clinandrium** reduced, entire. **Nectary** not penetrating the ovary, unornamented.

OTHER SPECIMENS: ECUADOR: Napo: below Papallacta, 2550 m, *J. & L. Kuhn & C. & L. Luer 125,* SEL! near Cuyuja, 2400-2600 m, *H. van der Werff & W. Palacios 9614*, SEL!

DISTRIBUTION AND ECOLOGY: Known only from northern Ecuador; eastern side of the Andes, epiphytic, from 2400 to 3000 m altitude. Flowering in April and May.

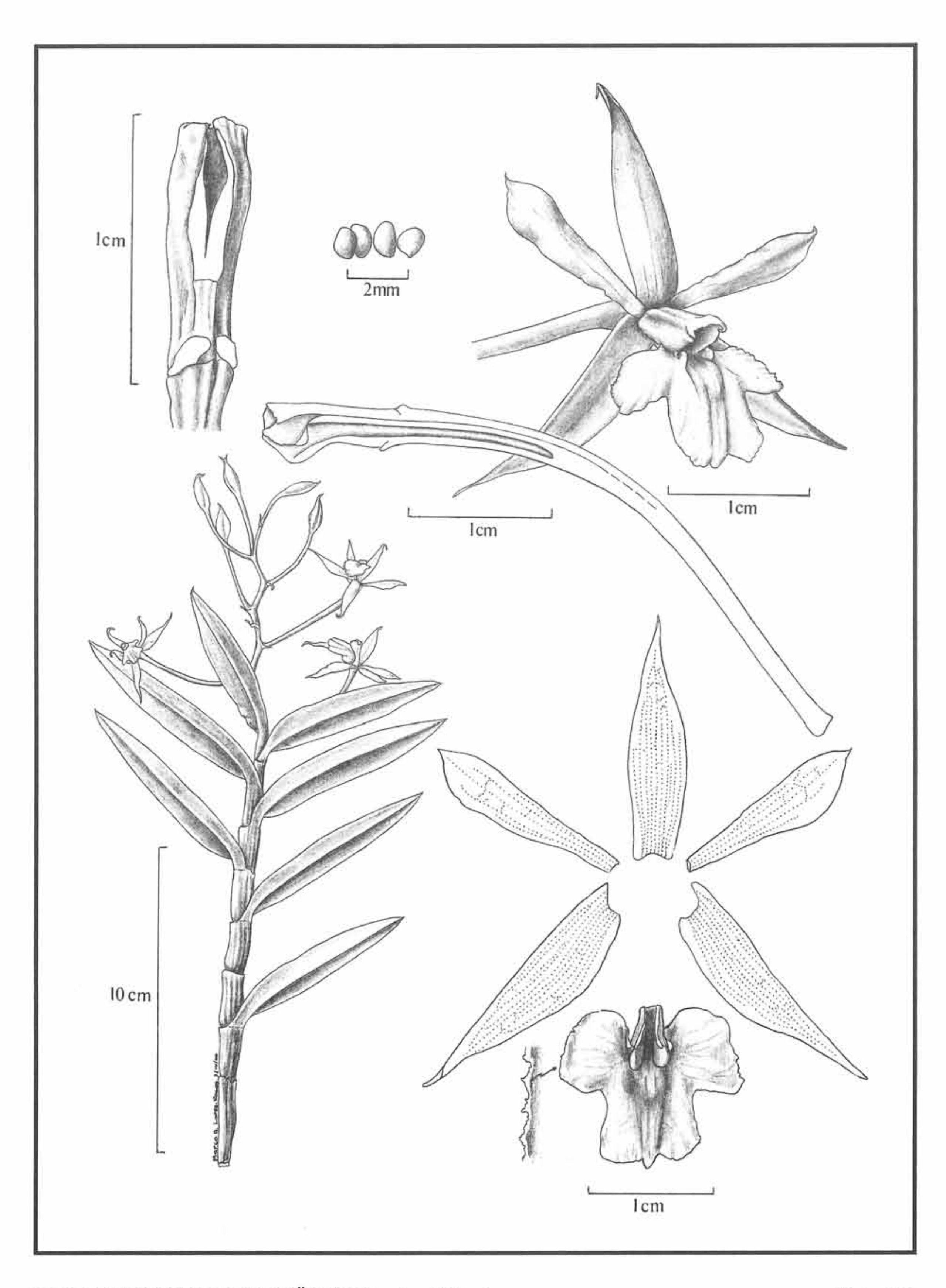
RECOGNITION: *Epidendrum loejtnantii* belongs to the cylindraceum subgroup, mancum group and is recognized by its dense inflorescence, successive flowers, verrucose sepals, 3-veined petals, lobes of the lip subequal in size, margin crenulate. Similar to *E. diphyllum* but that species has a longer ovary, 1-veined petals, midlobe of the lip with oblong-falcate apex, longer column. *Epidendrum cylindraceum* Lindl.., has unornamented sepals, unequal lobes of the lip, linear midlobe with entire apex, rarely forming two lobes apically, straight column, 1-veined petals with entire margin. The lip of *Epidendrum parvilabre* Lindl. has unequal lobes, the midlobe longer than the lateral lobes, glabrous sepals and linear petals with entire margin.

4

CONSERVATION STATUS: DD: Data deficient.

ETYMOLOGY: In honor of Bernt Løjtnant, Danish botanist who while at the University of Aarhus collected extensively in Ecuador in the springs of 1973 and 1979. He later published a booket on the conservation status of Danish orchids: Overvågning af Orchideer 1987-1989, Flora of Fauna 97(3+4). 1991. Århus.

Authors: E. Hágsater & C. H. Dodson **Illustrator: M. López R.** **Editors: E. Hágsater & L. Sánchez S.**
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EPIDENDRUM MALDONADOËNSE Hágsater & Dodson

Plate 456

EPIDENDRUM MALDONADOËNSE Hágsater et Dodson, *sp. nov.*

Type: ECUADOR: Carchi: above Maldonado west of Tulcan, 1700-2000 m. 21 Feb 1978, ***C. Luer, J. Luer & A. Hirtz 2701.*** Holotype: SEL! (illustration voucher).

Epidendro lima Lindl. similare sed sepalis lateralibus liberis, inflorescentia erecta, floribus successivis, ovario elongato, labelli lobulo medio subquadrato lobulis lateralibus amplitudine simili differt.

Hierba epífita, más de 24 cm de alto. **Raíces** no vistas. **Tallo** (incompleto, arquitectura no conocida), tipo caña, recto, lateralmente aplanado, 13.5+ x 0.4-0.6 cm. **Hojas** 9, distribuidas a lo largo de tallo, alternas, articuladas; vaina tubular, lateralmente comprimida, finamente estriada, 0.7-1.6 X 0.3-0.6 cm; lámina elíptica, ápice agudo, con una quilla dorsal, margen apical minutamente dentado, lisa, 6-7.7 X 1-1.2 cm. **Espata** ausente. **Inflorescencia** apical, racemosa, subsésil, erecta, 11 cm de alto; raquis flexuoso, no ornamentado. **Bráctea floral** mucho más corta que el ovario, triangular, largamente acuminada, 5-6 mm de largo. **Flores** 9, sucesivas, 2-3 abiertas a la vez, resupinadas, blanco amarillento, fragancia no registrada. **Ovario** pedicelado, alargado, ligeramente dilatado hacia el ápice, terete, no ornamentado, 17-45 mm de largo. **Sépalos** extendidos, libres, ovado lanceolados, acuminados, con una quilla dorsal, margen entero, 7-nervados. 17-20 x 5 mm. **Pétalos** extendidos, libres, oblanceolados espatulados, mucronados, margen entero, 3-nervados, las nervaduras laterales bifurcadas; 16-17 x 4.5 mm **Labelo** unido a la columna, trilobado, cordado, 10-13 X 14-17 mm; bicalloso, callos basales, pequeños, subglobosos; tricarinado, las carina prominentes, margen minutamente eroso; lóbulos laterales semiovados, lóbulo medio subcuadrado, apiculado. **Columna** recta, delgada, 9-10 mm de largo. **Clinandrio** corto, margen eroso. **Antera** no vista. **Polinios** 4, semiovoides, desiguales. **Rostelo** apical, hendido. **Lóbulos laterales del estigma** de ½ de largo de la cavidad estigmática. **Nectario** penetrando 1/3 del ovario, no ornamentado. **Cápsula** no vista.

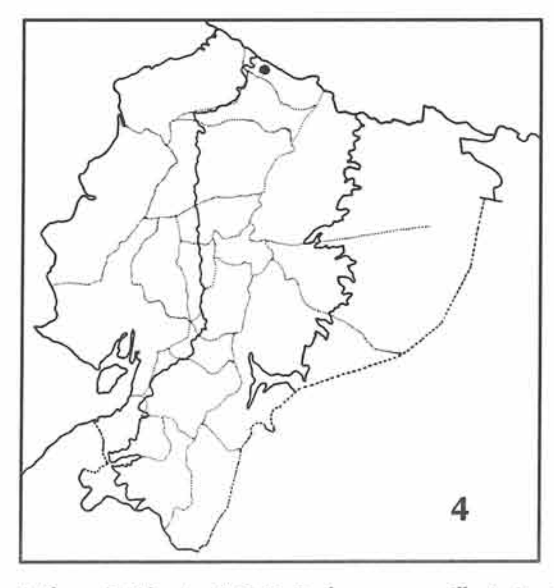
Epiphytic **herb. Stem** (incomplete) cane-like, straight, laterally compressed. **Leaves** 9, distributed throughout the stem; sheaths laterally compressed, finely striated, blade elliptic, acute, apical margin minutely dentate. **Inflorescence** apical, racemose, subsessile, erect, rachis flexuous. **Ovary** large, dilated towards the apex. **Floral bract** much shorter than the ovary, triangular, acuminate. **Flowers** 9, successive, 2-3 open at one time, resupinate, yellow-white. **Sepals** spreading, ovate-lanceolate, acuminate, 7-veined. **Petals** spreading, oblanceolate, spathulate, mucronate, 3-veined, the lateral veins bifurcate. **Lip** 3-lobed, cordate, bicallose, calli small, subglobose, tricarinate, the keels prominent, margin minutely erose; lateral lobes semiovate, midlobe subquadrate, apiculate. **Column** straight, thin. **Clinandrium** short, margin erose. **Nectary** penetrating one-third of the ovary, unornamented.

RECOGNITION: *Epidendrum maldonadoënse* appears to belong to the cernuum group, fritzianum subgroup (only a fragment of the plant has been seen, the architecture is unknown), and is recognized by the acute leaves, laterally compressed stem, erect raceme with successive, large, flowers (sepals acuminate, 17-20 mm long), petals 4.5 mm wide, 3-veined, the lobes of the 3-lobed lip about equal in size, the midlobe subquadrate. It is similar to *E. lima* Lindl. which has similar leaves, a nodding raceme of simultaneous flowers, the floral bracts about as long as the ovary, the lateral sepals connate at the base, and the midlobe of the lip cuneate and larger than the lateral lobes.

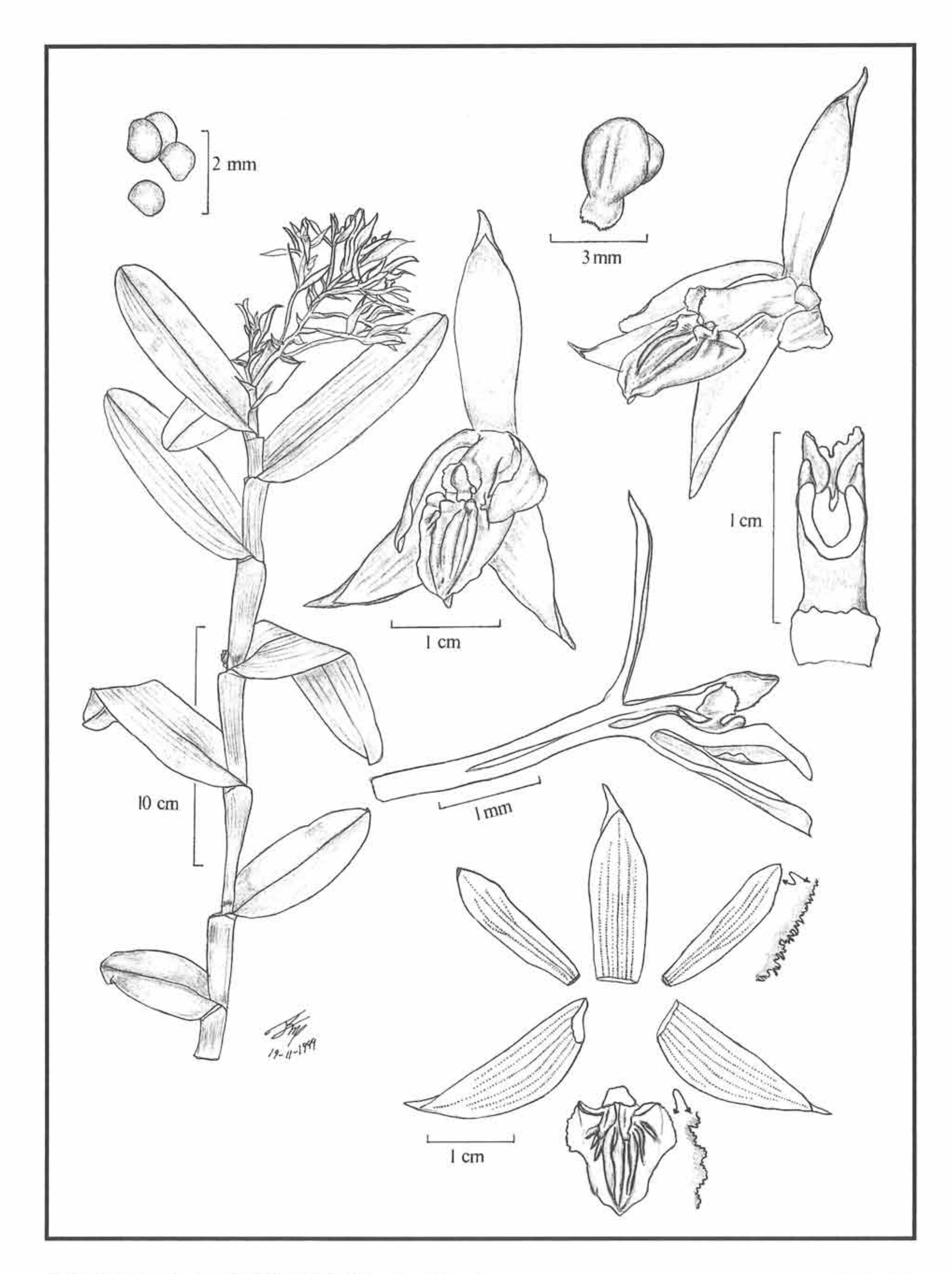
DISTRIBUTION AND ECOLOGY: Known only from the western slope of the Andes on the border of Ecuador and Colombia, at 1700-2000 m altitude, in cloud forest. Flowering in February-March.

CONSERVATION STATUS: DD. Data deficient.

ETYMOLOGY: In reference to the town of Maldonado, in north western Ecuador, on the Colombian border, near where the type and many other orchids have been collected.



Authors: E. Hágsater & C. H. Dodson **Illustrator: M. López R.** **Editors: E. Hágsater & L. Sánchez S.**
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EPIDENDRUM MEGALOCLINIUM Hágsater & Dodson

Plate 457

EPIDENDRUM MEGALOCLINIUM Hágsater et Dodson, *sp. nov.*

Type: ECUADOR: Napo: near Papallacta on road Quito to Baeza, 2900-3100 m, 31 April 1987, ***C. H. Dodson, P. Scharf & D. Allison 17069.*** Holotype: AMES! (illustration voucher). Isotypes: AAU! AMO! (flower in liquid), QCNE! RPSC! SEL!

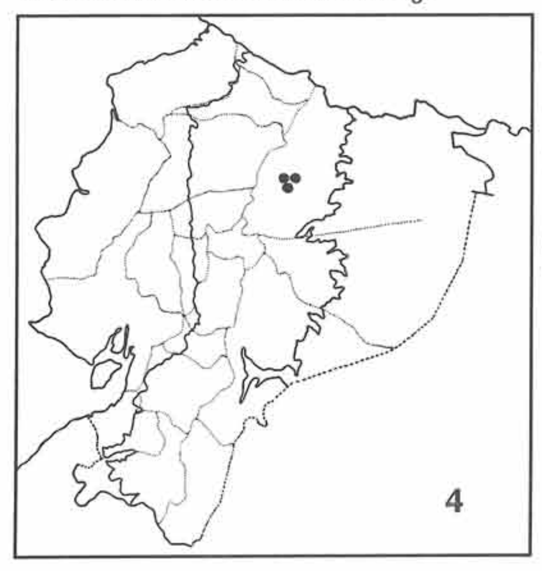
Epidendro pallatangae Schltr. similare sed clinandrio majore prominentique divergens.

Hierba terrestre, cespitosa, ramificada arriba, 100-200 cm de alto. **Raíces** basales, gruesas. **Tallos** ramificados arriba, tipo caña, teretes en la base, lateralmente comprimidos arriba, el principal hasta 200 x 0.6-1.4 cm, las ramificaciones 8-18 x 0.6-1.1 cm. **Hojas** numerosas en el tallo principal, 4-8 en las ramas, distribuidas a todo lo largo de los tallos, vainas tubulares, finamente rugosas y estriadas, las del tallo principal 2.5-6 x 1.1-1.4 cm, las de las ramas 1.6-3.5 x 0.5-0.9 cm; lámina oblonga a ovada, ápice redondeado y retuso a desigualmente bilobado, subcoriácea, margen entero, las del tallo principal 6-14 x 2.4-3.0 cm, las de las ramas 2.5-8(12.5) x 1.4-2.3(2.8) cm. **Espata** ausente. **Inflorescencia** apical, arqueada, racemosa a paniculada, 6-11 cm de largo; pedúnculo corto, terete, 1-2 cm de largo. **Brácteas florales** mucho más cortas que el ovario, abrazadoras, triangulares, largamente acuminadas, 7-15 x 2-4 mm. **Ovario** terete, liso, no inflado, 11-38 mm de largo. **Flores** 9-18, simultáneas, abriendo progresivamente desde la base, resupinadas, amarillo verdosas a verdes, los sépalos en ocasiones teñidos de morado por fuera, sin aroma. **Sépalos** lanceolado elípticos, acuminados, aristados, margen entero, extendido, 5-6 nervados, 15-25 x 4-7 mm, el **dorsal** extendido, los **laterales** entreabiertos, oblicuos. **Pétalos** adpresos, oblanceolados oblongos, agudos a obtusos, margen finamente denticulado y revoluto, 3-nervados, las venas laterales bifurcadas arriba, 13-17 x 2.5-5 mm. **Labelo** unido a la columna, cordiforme, ligeramente trilobulado, 11-14 x 8-12 mm, margen finamente denticulado, en posición natural los lados revolutos; bicalloso, los callos lateralmente comprimidos, disco con 5-7 quillas carnosas, las 3 centrales paralelas, las 4 laterales radiantes. **Columna** recta, 9-10 mm de largo. **Clinandrio** prominente, en forma de embudo, margen eroso denticulado. **Antera** ovoide, con un proceso petaloide apical de margen denticulado, 4-locular. **Polinios** 4, ovoides. **Rostelo** subapical, hendido. **Lóbulos laterales del estigma** de 1/3 del largo de la cavidad estigmática. **Nectario** apenas traspasando el perianto, no ornamentado. **Cápsula** elipsoide 48-50 mm de largo, pedicelo 13-15 x 2-3 mm, cuerpo 31 x 18 mm, cuello apical 5 x 3 mm.

Caespitose, branching, terrestrial **herb. Stems** cane-like, branching above, laterally flattened. **Leaves** oblong to ovate, apex rounded and retuse to unequally bilobed, subcoriaceous, those of the branches smaller than those of the main stem. **Spathe** absent. **Inflorescence** apical, arching, racemose to paniculate, peduncle short. **Floral bracts** much shorter than the ovary, acuminate. **Ovary** long. **Flowers** simultaneous, opening in succession, resupinate, yellow-green to green, sometimes the sepals tinged purple, not fragrant. **Sepals** lanceolate-elliptic, acuminate, aristate, 5-6-veined. **Petals** oblanceolate-oblong, acute to obtuse, margin denticulate, 3-veined. **Lip** cordiform, slightly 3-lobulate, margin denticulate, bicallose, 5-7 keeled, the keels fleshy. **Clinandrium** prominent, funnel-shaped, surpassing the body of the column, margin erose-denticulate. **Anther** ovoid, with an apical petaloid process, the margin denticulate. **Nectary** barely reaching the perianth, unornamented.

OTHER SPECIMENS: ECUADOR: Napo: km 73 Quito-Baeza, *Dodson et al. 15871* QCNE! RPSC! km 68, Quito-Baeza, *Dodson et al. 16421* GH! QCNE! RPSC! SEL! km 70 Quito-Baeza, col. Thurston et al., *Hágsater 7482* AMO! Cuyuja-Papallacta, *Holm-Nielsen et al. 6848* AAU! AMES! S (x2)! SEL! Ibid. *Løjtnant et al. 11382* AAU! GB! Ibid. *11422* AAU! Ibid. *Palacios 2575* RPSC! QCNE!

RECONGITION: *Epidendrum megaloclinium* belongs to the vernixium subgroup of the cernuum group, with large erect stems, branching above, with subcoriaceous, rounded leaves and entire lip, and is recognized by the acuminate, 15-25 mm long sepals, cordiform, slightly 3-lobulate lip with prominent keels and the prominent, funnel-shaped clinandrium. *Epidendrum pallatangae* is similar but has smaller flowers, the sepals 14-16 mm long, with a smaller clinandrium, and distributed along the Pacific side of the Andes from Lake Cuicocha to Pallatanga.

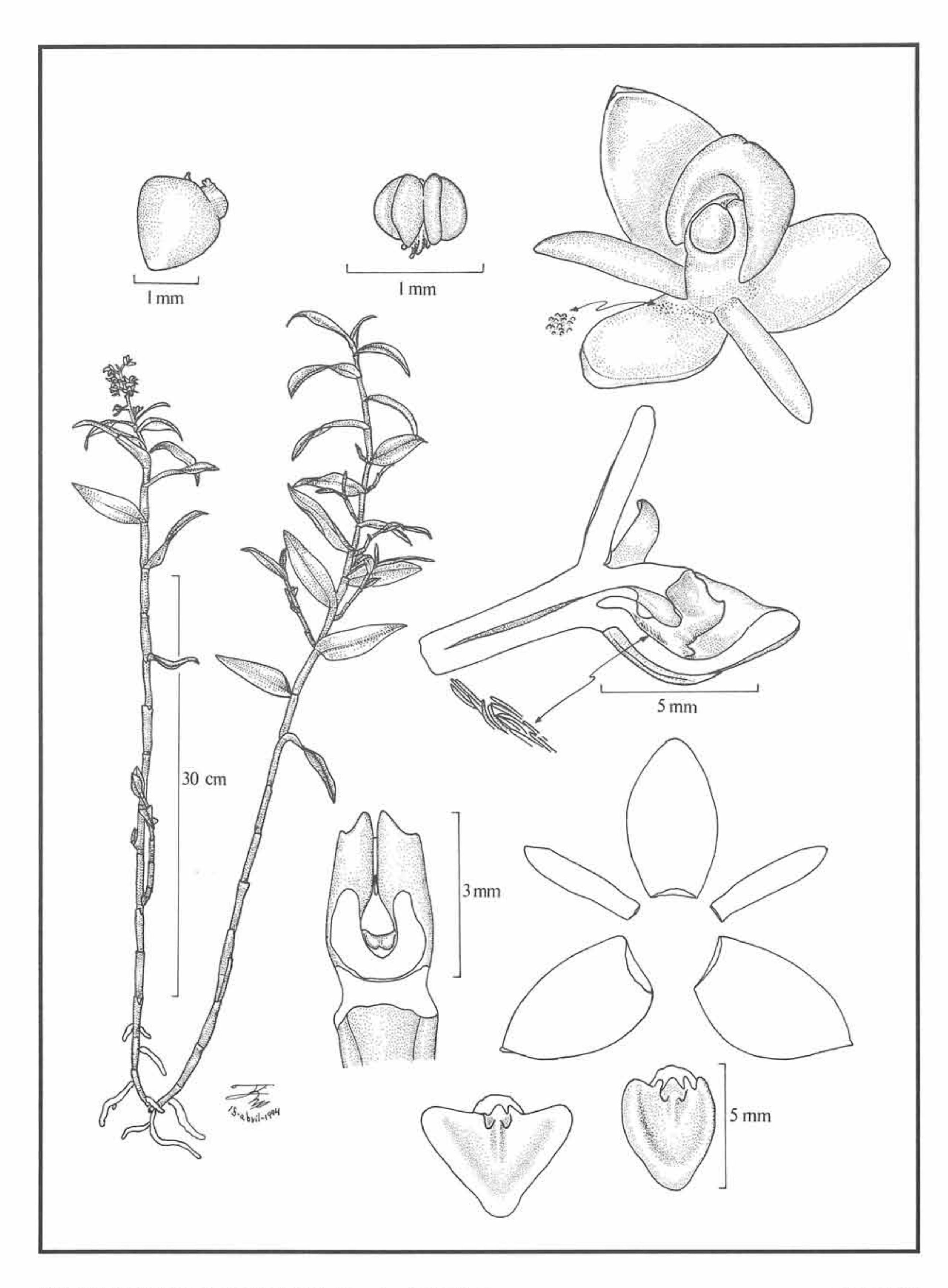


DISTRIBUTION AND ECOLOGY: Endemic to Ecuador, on the eastern slope of the eastern Andes in Central Ecuador, between Cuyuja and Papallacta, terrestrial on rocky roadside banks in humid montane forest at 2500-3100 m. Flowering March to July.

CONSERVATION STATUS: DD. Data deficient. The species appears to be common though endemic.

ETYMOLOGY: From the Greek μεθαλο, large, and κλινη, couch, the clinandrium, in reference to the very large clinandrium which characterizes this species.

Authors: E. Hágsater & C. H. Dodson **Illustrator: R. Jiménez M.** **Editors: E. Hágsater & L. Sánchez S.**
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EPIDENDRUM MICROCARPUM Hágsater & Dodson **Plate 458**

EPIDENDRUM MICROCARPUM Hágsater et Dodson, *sp. nov.*

Type: ECUADOR: Carchi: Cantón Tulcán, km 3 abajo de Maldonado hacia Chical, 1300 m, col. 30 abril 1993, prensado de material cultivado 15 abril 1994. ***E. Hágsater, Dodson, Williams, Whitten, Embree, Stevenson & Chandler 11288.*** Holotype: QCNE! (illustration voucher). Clonotypes: 30 abril 1993, AMO! SEL!

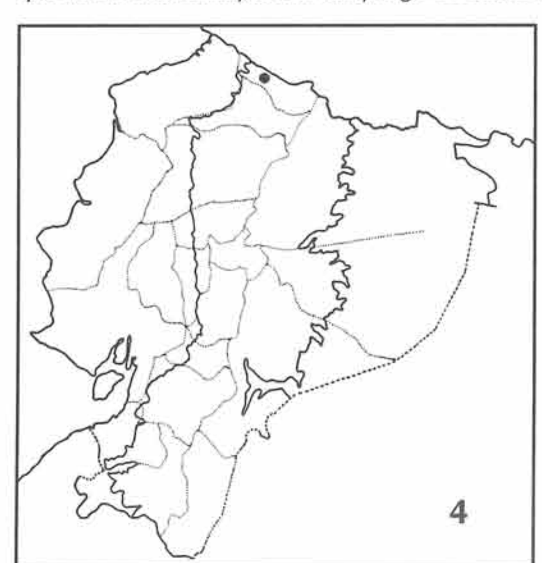
Epidendro macrostachyo Lindley affine sed floribus minoribus, bracteis floralibus et capsula minore.

Hierba terrestre, ramificada, 60 cm o más de alto. **Raíces** carnosas, de la base del tallo principal, 3-5 mm de grosor. **Tallos** erectos, ramificados cuando maduros, tipo caña, el principal progresivamente más delgado, 60 x 0.4-0.6 cm, las ramas 13-23 x 0.26-0.32 cm. **Hojas** distribuidas a lo largo de todo el tallo, las basales caedizas, en las ramas generalmente 5-6; vainas tubulares, finamente rugosas y estriadas, hasta 3.5 cm de largo; lámina lanceolada, aguda, margen apical finamente eroso denticulado, el ápice engrosado formando una quilla erosa; las hojas primera y última más cortas que las centrales, las del tallo principal 6.8-8.5 x 1.7-2.3 cm; las de las ramas 4.0-5.5 x 1.0-1.2 cm. **Espata** ausente. **Inflorescencia** apical, del tallo maduro o de las ramificaciones, florece una sola vez, racemosa, erecta, sinuosa, 5 cm de largo. **Bráctea floral** prominente, más corta a más larga que el ovario, progresivamente más largas, triangular aguda, márgenes finamente erosos, 5-8 x 3 mm. **Flores** 9-12, no resupinadas, simultáneas, carnosas, color verde amarillento, fragancia aparentemente ausente. **Ovario** no inflado, no ornamentado, 4-7 mm de largo. **Sépalo dorsal** extendido, elíptico, obtuso, carnoso, glabro; 6 x 3 mm. **Sépalos laterales** entreabiertos, ovados, ligeramente oblicuos, apiculados, carnosos, glabros; 6.5 x 4 mm. **Pétalos** extendidos, lineares, subagudos, carnosos, 5 x 1 mm. **Labelo** entero, triangular, las esquinas redondeadas, base subcordada, ápice redondeado, muy carnoso, bicalloso, los callos basales agudos, cortos, sin quillas, en posición natural los lados abrazando el ápice de la columna, 4.5 x 6.5 mm (extendido). **Columna** ligeramente arqueada, gruesa, 4 mm de largo, el ápice con un diente a cada lado, agudo y algo recurvado hacia arriba. **Clinandrio** reducido, entero. **Antera** ovoide, aguda, carnosa, 4-locular. **Polinios** 4, obovoides, lateralmente comprimidos, caudículas suaves y granulosas, ligeramente más largas que los polinios, viscidio semilíquido. **Rostelo** hacia el tercio apical de la columna, hendido. **Lóbulos laterales del estigma** de 1/3 del largo de la cavidad estigmática. **Nectario** apenas penetrando hasta el perianto, ornamentado con escasa pubescencia frente al estigma. **Cápsula** elipsoide, 21-22 x 13 mm, incluyendo un pedicelo corto, de 3 mm, delgado, sin cuello apical, el perianto persistente.

Branching **herb**. **Stems** erect, branching with age. **Leaves** elliptic-lanceolate, acute, apical margin finely erose-denticulate. **Inflorescence** apical, racemose, erect. **Floral bracts** smaller than or equal to the ovary, triangular, margins finely erose. **Flowers** 9, non-resupinate, simultaneous, yellowish green. **Sepals** partly open, ovate, obtuse, fleshy. **Petals** spreading, linear, subacute. **Lip** entire, triangular, embracing the column, bicallose, the calli small, acute. **Column** somewhat arched, thick, with an apical up-turned acute tooth on each side. **Anther** ovoid, acute, 4-celled. **Pollinia** 4, obovoid, laterally compressed, caudicles soft and granulose, viscidium semiliquid. **Rostellum** at the apical third of the column, slit. **Nectary** only penetrating to the perianth, ornamented with scarce pubescence opposite the stigmatic cavity.
OTHER SPECIMENS: None seen.

DISRTRIBUTION AND ECOLOGY: Known only from the border between Ecuador and Colombia, on the western slopes of the Andes, terrestrial among other shrubs in tropical forest, at 1300 m altitude. Flowering in April and May.

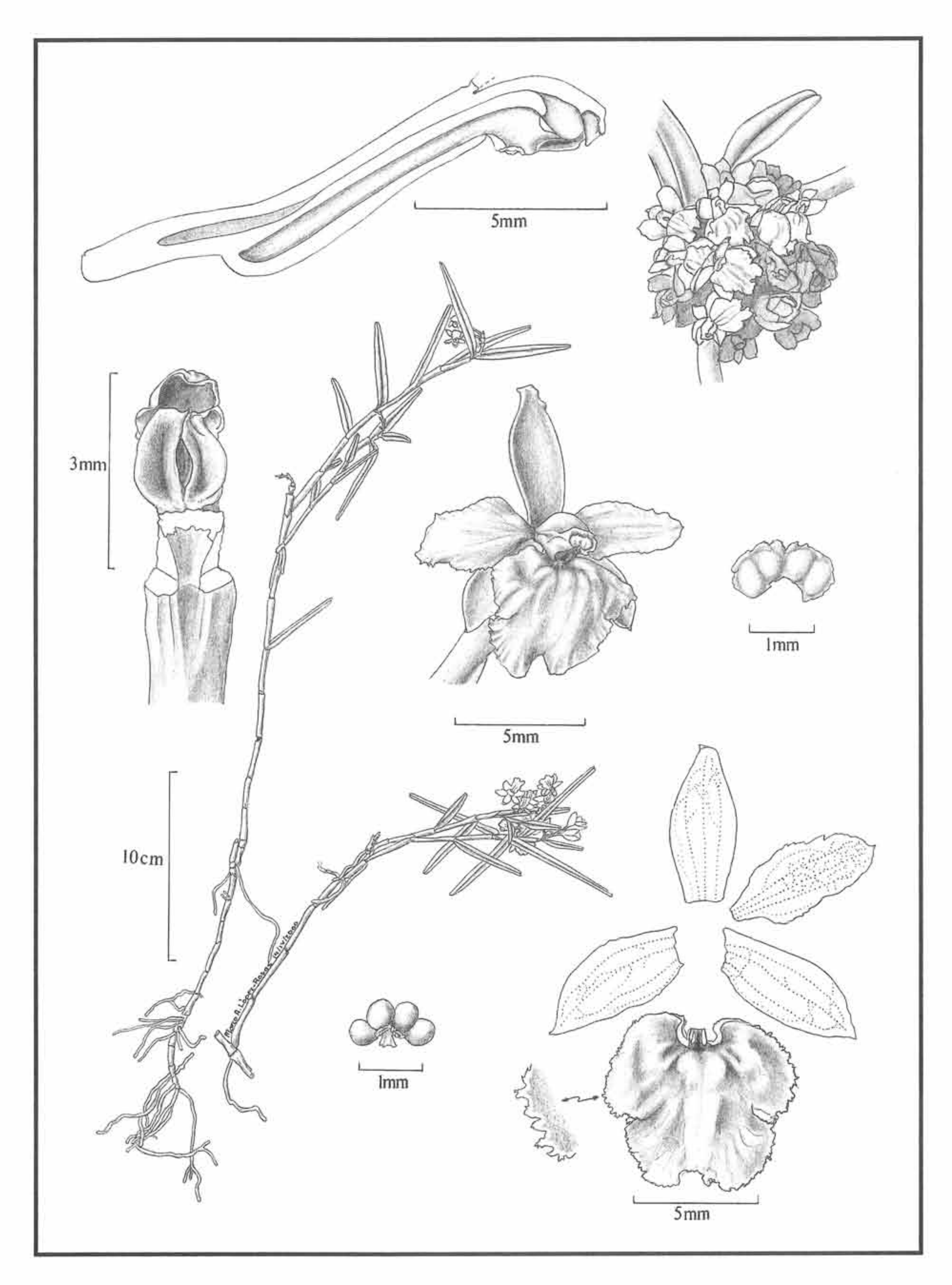
RECOGNITION: *Epidendrum microcarpum* is closely related to *E. macrostachyum* Lindl., but is recognized by its 9-12 simultaneous much smaller flowers, sepals 6.5 mm long, petals linear and the lip triangular when spread. *Epidendrum palaciosii* Hágsater & Dodson has many more flowers, with the 7-8 mm long sepals muriculate outside, and the petals oblanceolate. *Epidendrum macrostachyum* has many larger successive flowers. *Epidendrum dermatanthum* Krzl. has petals nearly as wide as the sepals. *Epidendrum oxycalyx* Hágsater & Dodson has larger flowers, the sepals 15-23 mm long, acuminate sepals and petals, and a cordiform-triangular lip. *Epidendrum pachyneuron* Schltr. has 15 mm long sepals, and short leaves, 30-40 x 10-14 mm. *Epidendrum platybracteatum* Hágsater, from northwestern Colombia has a compact inflorescence and large, wide floral bracts.



CONSERVATION STATUS: DD. Data deficient.

ETYMOLOGY: from the Greek μικρος, small, and καρπος, fruit, in reference to the small size of the capsule of this species, compared to those of most of the larger flowered species of this group.

Authors: E. Hágsater & C. H. Dodson **Illustrator: R. Jiménez M.** **Editors: E. Hágsater & L. Sánchez S.**
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EPIDENDRUM MICRODIOTHONEUM Hágsater & Dodson **Plate 459**

EPIDENDRUM MICRODIOTHONEUM Hágsater et Dodson, *sp. nov.*

Type: ECUADOR: Pichincha: km 64, Santo Domingo to Quito via Tandapi, 1900 m, 2 Mar 1986, ***C.H. Dodson, C. A. Luer, A. Hirtz & A. Embree 16342.*** Holotype: QCNE! Isotypes: RPSC! (illustration voucher). SEL!

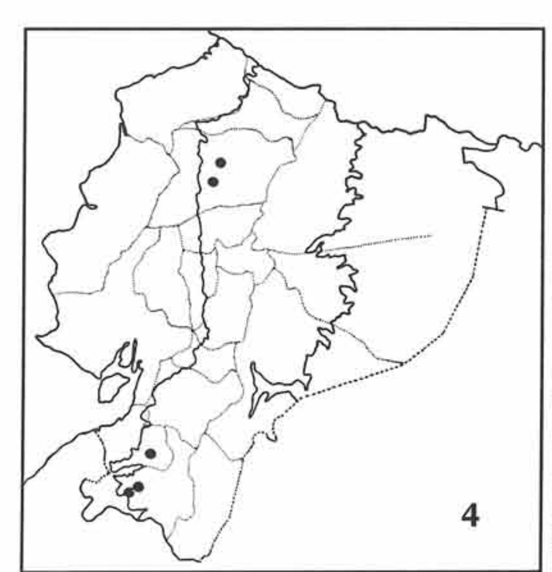
Epidendro oyacachiensi Hágsater simile sed floribus quasi duplo minoribus, labello ad basem cordato recedit.

Hierba epífita o terrestre, repente y ramificada, 21-70 cm de alto. **Raíces** basales, en el tallo principal y aéreas de la base de algunas ramificaciones maduras, delgadas, 0.5 mm de grosor. **Tallos** ramificados en la porción apical, tipo caña, teretes, el principal 11.5-30 x 0.1-0.2 cm, los secundarios 6.5-14 x 0.1-0.2 cm. **Hojas** numerosas, distribuidas a lo largo del tallo principal cuando joven, cuando se ramifica caedizas, 3-7 en las ramificaciones, alternas; vaina tubular, finamente estriada, papirácea, 1.3-2.3 cm de largo; lamina linear lanceolada, ápice asimétricamente bilobado, margen entero, 0.8-5.5 x 0.3-0.5 cm. **Espata** ausente. **Inflorescencia** apical, racemosa, glomerulosa, arqueada, florece una sola vez, 2-2.5 cm de largo; pedúnculo corto, no ornamentado, provisto de 2 brácteas basales, semejantes a las florales, 2 mm de largo. **Brácteas florales** de menos de la mitad de largo del ovario, triangulares, abrazadoras, largamente acuminadas, de 1-2 mm de largo. **Ovario** arqueado hacia arriba en el 1/3 basal, engrosado ventralmente en los 2/3 apicales, no ornamentado, 7-10 mm de largo. **Flores** 10-11, simultáneas, resupinadas, amarillo verdosas a pardo purpúreas claras, fragancia fuerte a pera fresca. **Sépalos** extendidos, libres, elípticos, obtusos, con una quilla dorsal diminuta, margen entero, algo revoluto, 3-nervados, las nervaduras ramificadas, 6-7 x 2.5 mm. **Pétalos** extendidos, libres, elípticos, redondeados, membranáceos, margen finamente eroso, 3 nervados, las nervaduras ramificadas, 6 x 2-2.5 mm. **Labelo** unido oblicuamente a la columna, base cordada, trilobado, margen eroso dentado, 7 x 6 mm; ecalloso, disco provisto de 4 carinas, prominentes y laminares en la base, las laterales cortas, desvaneciéndose hacia la parte media del disco; lobulos laterales semiorbiculares; el lóbulo medio separado por senos angostos, bilobado, los lóbulos semiorbiculares. **Columna** arqueada, gruesa, la unión con el labelo por medio de dos láminas amplias, 3 mm de largo. **Clinandrio** prominente, entero. **Antera** reniforme, 4-locular. **Polinios** 4, obovoides, subiguales, caudículas suaves y granulosas, viscidium semilíquido. **Rostelo** apical, hendido. **Lóbulos laterales del estigma** de 1/4 de largo de la cavidad estigmática. **Nectario** penetrando 2/3 partes del ovario, formando una vesícula prominente, no ornamentado. **Cápsula** no vista.

Epiphytic or terrestrial, repent, branching **herb. Roots** from the base of the main stem and the base of the mature branches, filiform. **Stems** terete, branched above. **Leaves** distributed throughout the main stem, and along the apical half of the branches; sheaths tubular, finely striated; blade linear-lanceolate, unequally bilobed, margin entire. **Inflorescence** apical, racemose, glomerulose, arching, short, flowering only once. **Floral bracts** about half as long as the ovary, triangular, acuminate. **Ovary** arching upwards at the basal 1/3, inflated ventrally along the apical 2/3. **Flowers** 10-11, simultaneous, resupinate, yellow-green, very fragrant of fresh pears. **Sepals** spreading, free, elliptic, obtuse, margin entire, 3-veined, veins branching. **Petals** spreading, free, elliptic, rounded, margin finely erose, 3-veined, the veins branching. **Lip** obliquely united to the column, cordate, 3-lobed, margin erose-dentate, ecallose, 4-carinate, the carina laminar, progressively lower; lateral lobes semiorbicular, the bilobed, emarginate midlobe separated by narrow sinuses, the lobes semiorbicular. **Column** arched, united to the lip by two wide wings. **Clinandrium** prominent, entire. **Anther** reniform, 4-celled. **Pollinia** 4, obovoid, subequal, caudicles granulose, viscidium semi-liquid. **Rostellum** apical, slit. **Nectary** penetrating two thirds of the ovary and forming a prominent vesicle, unornamented.

OTHER SPECIMENS: ECUADOR: El Oro: Above Zaruma, 1900 m, *A. Hirtz et al. 2869* RPSC! QCA! QCNE! **Loja:** 8 km W of Celica on road to Alamor, 2000 m, *G. Harling & L. Andersson 22145* GB! QCA! Celica-Zapotillo, ca. km 5, 2200 m, *G. Harling & L. Andersson 22463*, GB! QCA! **Pichincha:** Quito-Sto. Domingo, 2000 m, *C. Luer & R. Kent 278* SEL!

OTHER RECORDS: ECUADOR: El Oro: Above Zaruma, 1900 m, *A. Hirtz et al. 2869*, AMO! (color slide).



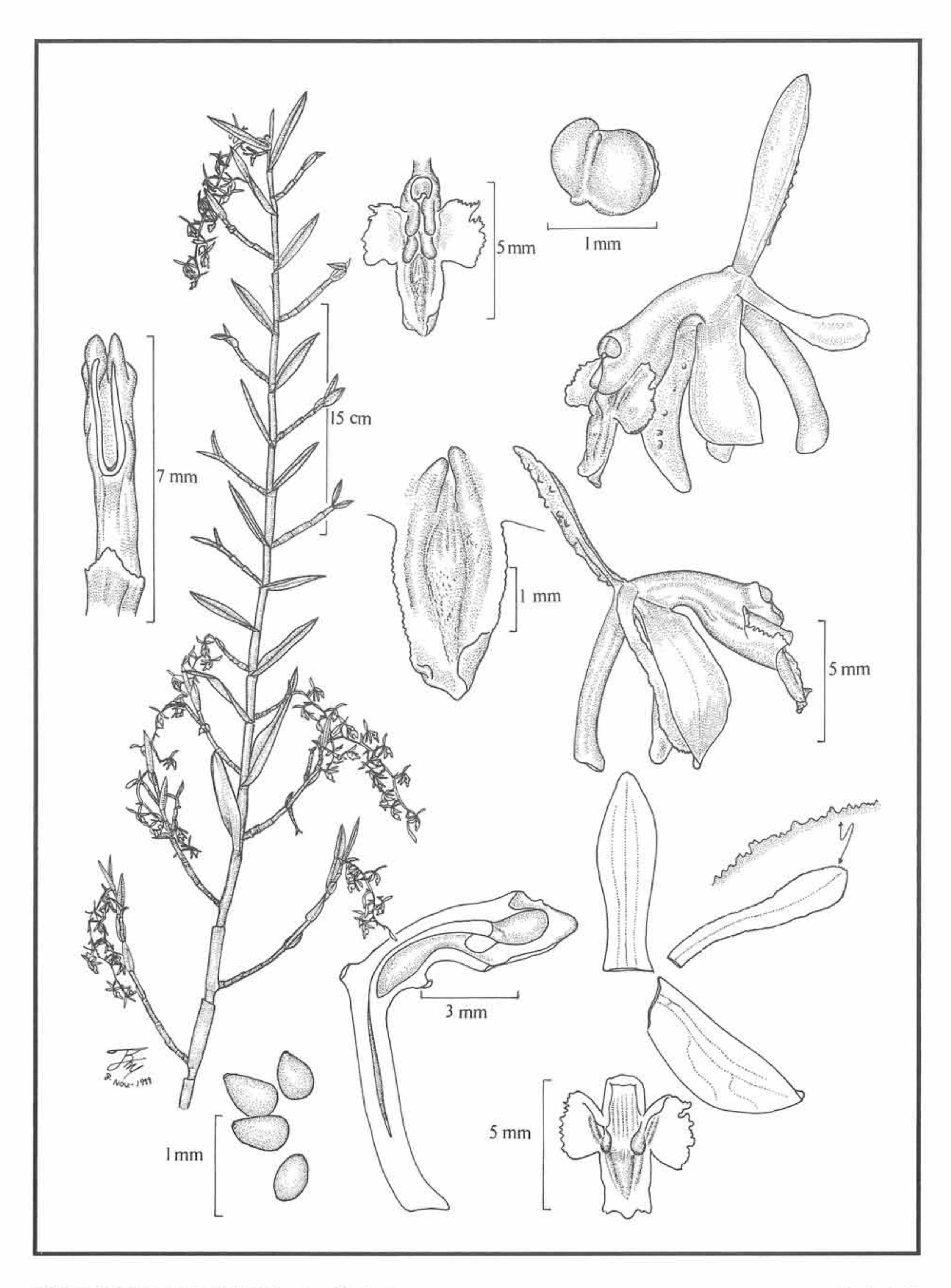
DISTRIBUTION AND ECOLOGY: Found along the Pacific slopes of the western Andes in central Ecuador and south to the Peruvian border. Epiphytic on small trees on very steep slopes, 1900-2200 m altitude. Flowering in February and March.

RECOGNITION: *Epidendrum microdiothoneum* belongs to the diothonea group and is recognized by the branching habit, the narrow bilobed leaves, the glomerulose inflorescence, and the small flowers (sepals 6-7 mm long), with a prominently arching, incurved column obliquely united to the lip which is 4-lobed and 4-carinate. *Epidendrum oyacachiense* Hágsater also has an arched column, but it is slightly longer (4 mm), sepals are about twice as long (11 mm), and lip is cuneate at base and suborbicular. The species has been confused with *E. scabrum* Ruiz & Pavón, which has sepals 3.5-5 mm long, leaves 6-15 x 3.0-3.5 mm, and more of an elongate rachis 10-15 mm long, the column straight and belongs to a different group.

CONSERVATION STATUS: DD. Data deficient.

ETYMOLOGY: From the Greek μικρός, small, and *Diothonea*, in turn from δι, two, and οδονη, a sail, in allusion to the two membranes stretched from the column to the lip, like jibs from the foremast to the bowsprit of a ship. It is one of the smaller-sized in the diothonea group.

Authors: E. Hágsater & C. H. Dodson **Illustrator: M. López R.** **Editors: E. Hágsater & L. Sánchez S.**
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EPIDENDRUM MOLAUI Hágsater & Dodson Plate 460

EPIDENDRUM MOLAUI Hágsater et Dodson, *sp. nov.*

Type: ECUADOR: Pichincha: around Laguna San Marcos, NE of Volcán Cayambe, 3420-3500 m, 17 Dec. 1987. ***U. Molau & B. Eriksen 2038.*** Holotype: QCNE! Isotypes: AAU! (illustration voucher), GB! QCA!

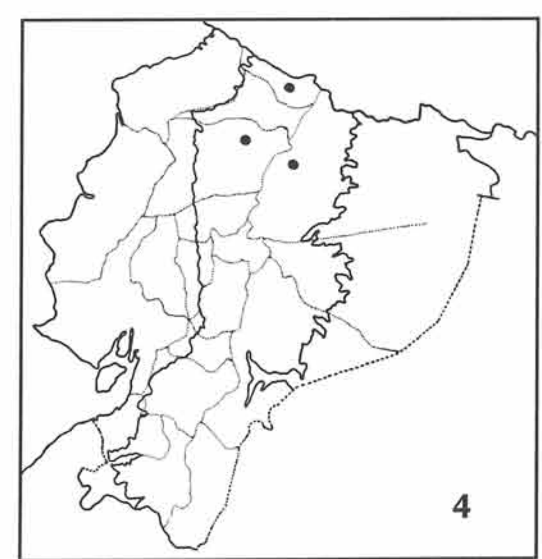
Epidendro fritziano Hoehne similare sed racemo elongato laxifloroque, floribus flavidis cum maculis purpureis, labelli lobulis lateralibus dolabriformibus, lobulo medio rectangulari abhorrens.

Hierba epífita o terrestre, ¿monopodial? ramificada arriba, de 1.5-2 m de alto. **Raíces** basales, gruesas. **Tallos** tipo caña, teretes, ramificados arriba, las ramas menores, numerosas y progresivamente más pequeñas, de estas se producen con el tiempo nuevas ramas de floración de la mitad apical; tallo principal progresivamente más delgado, 150-200 x 0.25-0.6 cm, las ramificaciones de floración 2.5-11 x 0.15-0.25 cm. **Hojas** lanceoladas, dorsalmente carinadas, agudas, herbáceas, margen apical finamente eroso, vaina tubular, se continúa la carina de la hoja a todo lo largo de la vaina, estriada y finamente rugosa; hojas del tallo principal numerosas, más grandes, distribuidas a todo lo largo del tallo, caedizas, vaina tubular 1.5-4.0 x 0.3-0.6 cm, lámina 4.1-7+ x 0.6-1.0 cm, las de las ramas de floración 4-6, menores, vaina 0.5-2.0 x 0.2-0.3 cm, lámina 0.9-3.2 x0.3-0.6 cm. **Espata** ausente. **Inflorescencia** apical del tallo principal y de las ramas, florece una sola vez, racemosa, nutante, laxiflora, las flores espaciadas 4-6 mm, raquis 4-9 cm de largo, sinuoso, pedúnculo reducido. **Brácteas florales** más cortas que el ovario, triangulares acuminadas, 2-6 mm de largo. **Flores** 9-15, simultaneas, resupinadas, de color amarillo pálido, sépalos con puntos morados, disco del labelo rojo borgoña, columna verde marcada de morado; fragancia no registrada. **Ovario** delgado, 5-7 mm de largo. **Sépalos** extendidos, libres, elípticos, obtusos, 3-nervados, margen extendido, dorsalmente papilosos, 7-8 x 2.3-2.8 mm, el **dorsal** estrecho cerca de la base, los **laterales** carinados hacia el ápice. **Pétalos** extendidos, oblanceolados, ápice redondeado, margen eroso, 1-nervados, 7.5 x 1.6 mm. **Labelo** unido a la columna, trilobado, 5 x 5 mm, bicalloso, disco tricarinado, las carinas bajas y romas; lóbulos laterales dolabriformes, margen externo dentado eroso, lóbulo medio rectangular, semejante en superficie a los laterales, margen apical tridentado. **Columna** arqueada, formando un ángulo de 90° con el ovario, delgada, 6-7 mm de largo, terminando a los lados en un par de lobos redondeados proyectados hacia el frente. **Clinandrio** reducido, entero. **Antera** reniforme, 4-locular. **Polinios** obovoides, lateralmente comprimidos, semejantes. **Rostelo** subapical, hendido. **Lóbulos laterales del estigma** de 1/3 del largo de la cavidad. **Nectario** corto y amplio, sin penetrar el ovario, estriado en la base de la entrada. **Cápsula** no vista.

Epiphytic or terrestrial, monopodial?, branching **herb. Roots** basal. **Stems** cane-like, terete, branching above with short flowering branches, these producing new branches from the upper half. **Leaves** lanceolate, dorsally carinate, acute, herbaceous, apical margin minutely erose, sheath striated, minutely rugose; leaves of main stem larger than those of the flowering branches. **Inflorescence** apical, from main stem and flowering branches, racemose, nutant, lax-flowered, the flowers spaced. **Flowers** 9-15, simultaneous, resupinate, pale yellow, sepals with purple dots, disc of lip burgundy red, column green spotted with purple at apex. **Sepals** elliptic, obtuse, 3-veined, dorsally papillose, the **dorsal** narrowed near the base, the laterals dorsally carinate. **Petals** oblanceolate, rounded, margin erose, 1-veined. **Lip** 3-lobed, bicallose; lateral lobes dolabriform, apical margin dentate-erose, midlobe subequal in area, rectangular. **Column** arched and forming a 90° angle with the ovary. **Clinandrium** reduced, entire. **Pollinia** 4, obovoid, laterally compressed. **Nectary** short and wide, not penetrating the ovary.

OTHER SPECIMENS: ECUADOR: Carchi: Reserva Ecológica El Angel, *Palacios 11708* QCNE! **Napo:** Reserva Ecológica Cayambe-Coca, 5 km de Cuyuja, 3300 m, *Gavilanes et. al. 737*, QCA! **Pichincha:** Laguna de San Marcos, *A. Freire et al. 962* F! NY! QCA! **Sucumbios:** El Mirador, *Eriksen et al 45791*, AAU! QCA! El Mirador, *Gavilanes & Funk 846* QCA! QCNE! El Mirador, *Holm-Nielsen et al. 29936* AAU!

DISTRIBUTION AND ECOLOGY: Found in northern Ecuador in humid montane cloud forest of *Clusia, Chusquea* or *Miconia, Weinmannia, Gaiadendron, Monnina, Oreopanax* and *Hedyosmum*, at 3300-3600 m altitude. Flowering from November to February.

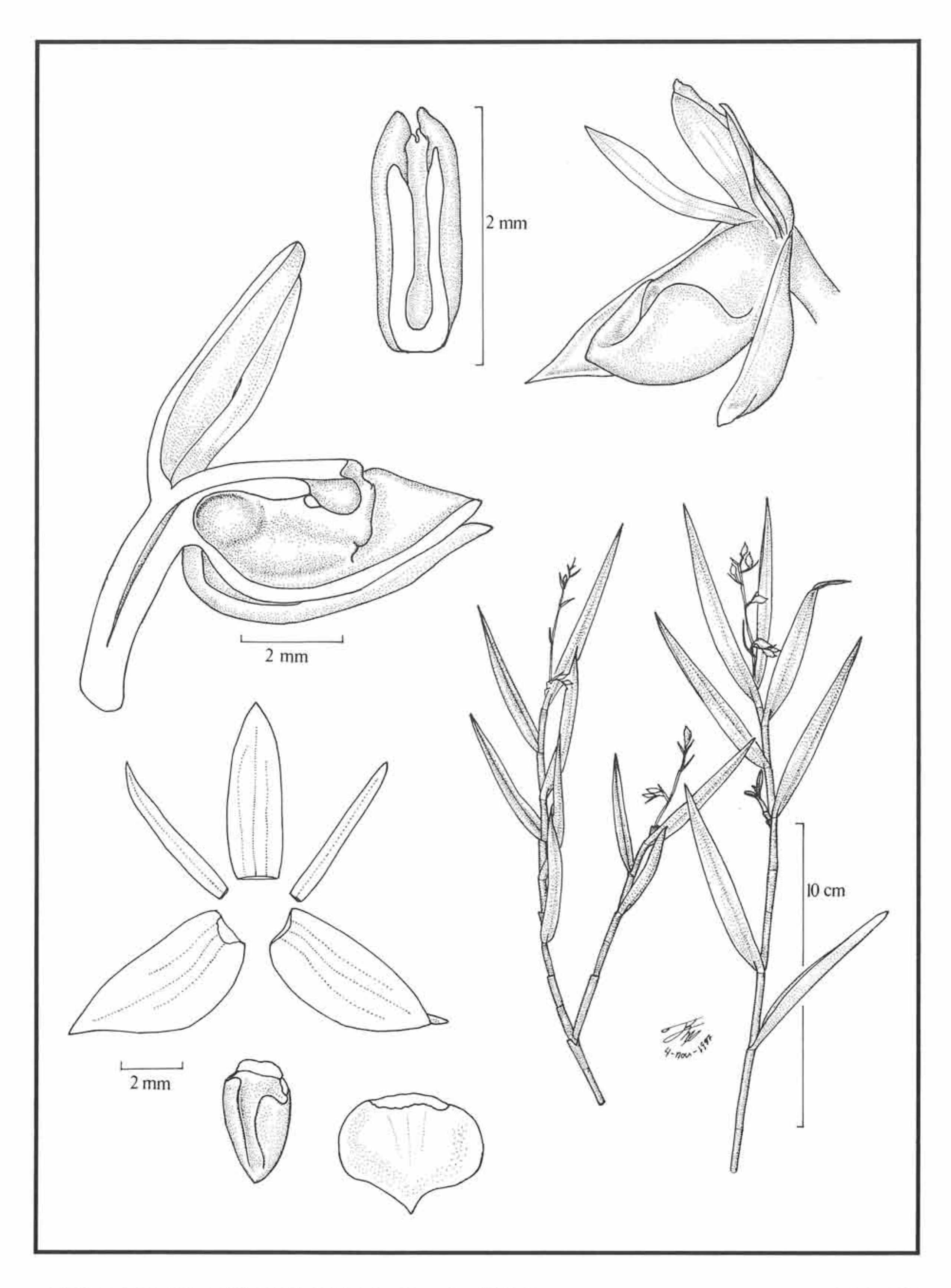


RECOGNITION: *Epidendrum molaui* belongs to the cardiophyllum group, fritzianum subgroup, and is recognized by the acute, lanceolate leaves, the tall, erect stems with short branches near the top and the nutant inflorescence with an elongate rachis, the flowers spaced some 5 mm apart, the 3-lobed lip and 7-8 mm long sepals. It is similar to *E. fritzianum* which has larger (sepals 8-10 mm), green flowers striped with lines of black dots, rounded lateral lobes and a cuneate midlobe, the inflorescence is densely flowered.

CONSERVATION STATUS DD. Data Deficient. It is found in several ecological reserves, in disturbed high altitude forests.

ETYMOLOGY: In honor of Ulf Molau, Swedish botanist who has participated extensively in collecting in Ecuador and who collected the type.

Authors: E. Hágsater & C. H. Dodson **Illustrator: R. Jiménez M.** **Editors: E. Hágsater & L. Sánchez S.**
Herbario AMO **Apartado Postal 53-123, 11320 México, D.F., MÉXICO**



EPIDENDRUM MONTISPICHINCHENSE Hágsater & Dodson

Plate 461

EPIDENDRUM MONTISPICHINCHENSE Hágsater et Dodson, *sp. nov.*

Type: ECUADOR: Pichincha: crescivit in declivitate occidentale Montes Pichincha, 8000 ft, 20 June 1863, ***W. Jameson 617.*** Holotype: P! (illustration voucher). Isotype: BM!

Epidendro guacamayensi Hágsater & Dodson simile sed columna deorsum leviter arcuata, labello glabro, suis lobulis columnae apicem non tegentibus differens.

Hierba erecta, ramificada, más de 23 cm de alto. **Raíces** no vistas. **Tallos** ramificados, tipo caña, teretes, 8.5-15.5+ x 0.1-0.25 cm. **Hojas** numerosas, distribuidas a lo largo del tallo, alternas; vaina tubular, finamente estriada en seco, 0.8-2.3 x 0.1-0.25 cm; lámina linear lanceolada, oblicua, acuminada, margen entero, ligeramente revoluto, 3.5-8 x 0.4-0.8 cm. **Espata** ausente. **Inflorescencia** apical, erecta, paniculada, 3.5-5 cm de largo; pedúnculo corto, filiforme, 2-10 mm de largo, desprovisto de brácteas, produce varios racimos espaciados a lo largo de segmentos, rectos, de 10-15 mm de largo; racimos dísticos, raquis ligeramente flexuoso, más grueso que el pedúnculo. **Brácteas florales** más largas que el ovario, triangulares, acuminadas, 3-5 mm de largo. **Flores** ca. 10, 2-3 por racimo, sucesivas en cada racimo; sin datos de color ni fragancia. **Ovario** terete, delgado, no ornamentado, 2-4 mm de largo. **Sépalos** libres, elípticos, obtusos, margen entero, 3 nervados, 6.4-6.8 x 2-3 mm; el **dorsal** entreabierto, ligeramente incurvado; los **laterales** entreabiertos, oblicuos, aristados. **Pétalos** libres, extendidos, lineares, obtusos, margen entero, 1 nervados, 5.8 x 0.7 mm. **Labelo** unido a la columna y abrazando el ápice sin cubrirla, al extenderse anchamente ovado, obtuso, margen entero, 4.2 x 5 mm; ecalloso, sin carinas, no ornamentado. **Columna** ligeramente arqueada y deflexa en la base, 3.8 mm de largo. **Clinandrio** corto, entero. **Antera** no vista. **Polinios** no vistos **Rostelo** apical, hendido. **Lóbulos laterales del estigma** pequeños, de 1/4 de largo de la cavidad estigmática. **Nectario** corto, sin sobrepasar el perianto, no ornamentado. **Cápsula** no vista.

Erect, branching **herb. Stems** cane-like, terete, branching. **Leaves** numerous, linear-lanceolate, oblique, acuminate, margin entire. **Inflorescence** apical, erect, paniculate, filiform, producing several distichous racemes of 2-3 successive flowers, the rachis thicker than the peduncle and slightly zigzag. **Floral bracts** longer than the ovary, triangular, acuminate. **Ovary** terete. **Sepals** partly spreading, free, elliptic, obtuse, 3-veined, the laterals oblique, aristate. **Petals** spreading, linear, obtuse, 1-veined. **Lip** embracing the column without covering it, widely ovate when spread, obtuse, ecallose, unornamented. **Column** slightly arching near the base. **Clinandrium** short, entire. **Nectary** wide and short, without penetrating the ovary.

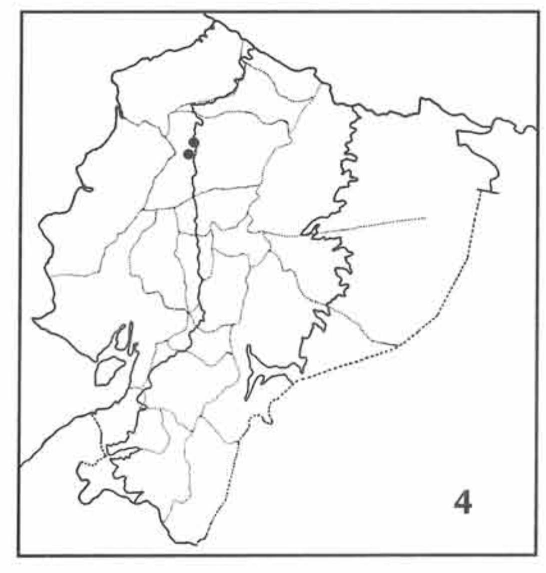
OTHER SPECIMENS: ECUADOR: Pichincha; W of Calacalí, 2500 m, *Løjtnant et al. 13681*, AAU! (sterile.)

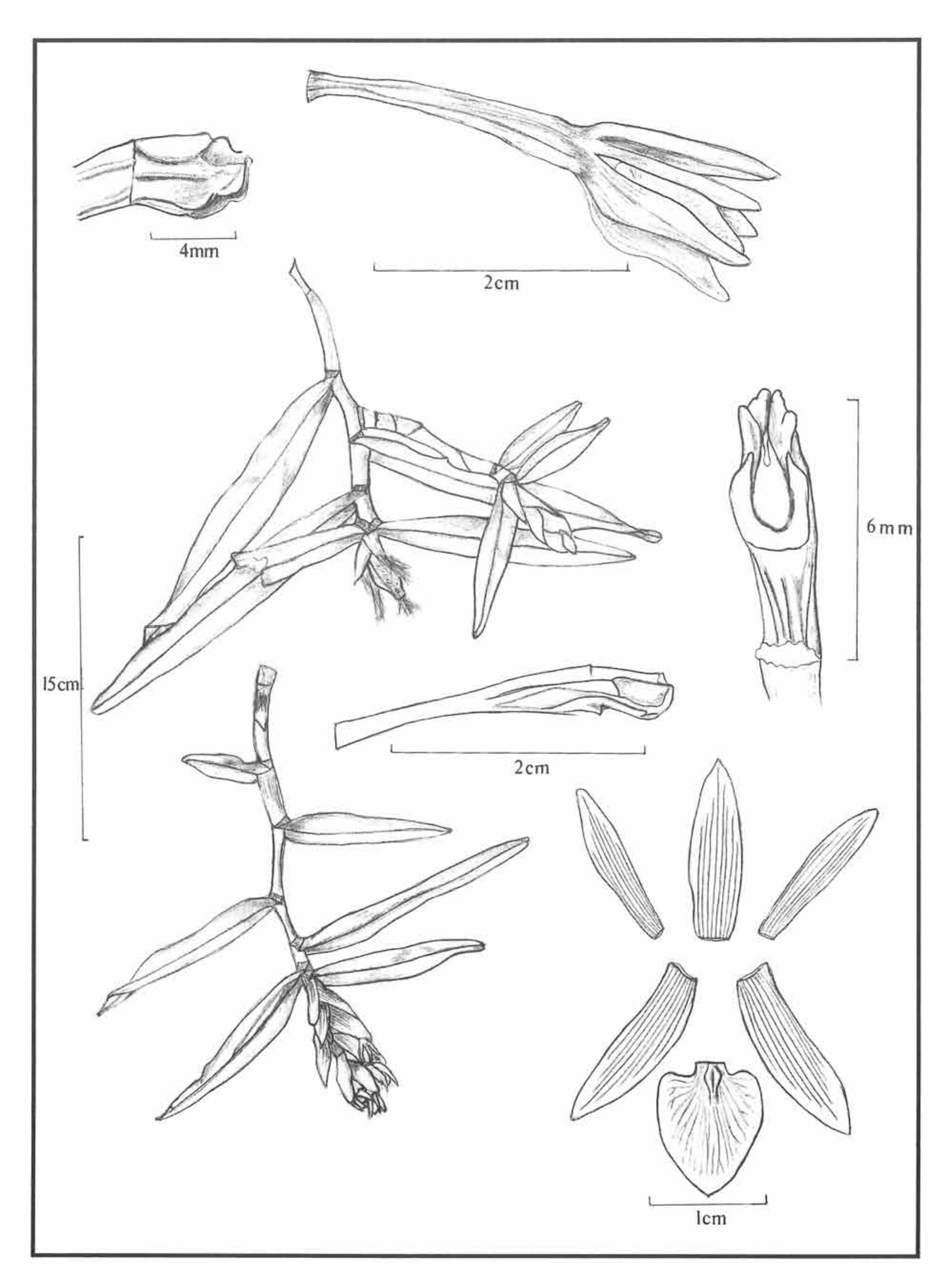
DISTRIBUTION AND ECOLOGY: Known only from Ecuador, from the western range of the Andes, on the western face of Mount Pichincha, 2400 m altitude. Flowering from August onwards.

RECOGNITION: *Epidendrum montispichinchense* belongs to the elleanthoides group, elleanthoides subgroup and is recognized by the erect branching stems with grassy, linear-elliptic, oblique leaves, an erect, paniculate inflorescence with a filiform straight peduncle, and short, distichous racemes of 2-3 successive flowers, and the widely ovate unornamented lip embracing the apex of the column without covering it. It closely resembles *E. guacamayense* which has a zigzag peduncle, the lip is minutely papillose and covers the column completely, leaving only a circular aperture at the apex, the column is geniculate with respect to the ovary and arches slightly upwards towards the apex. *Epidendrum elleanthoides* Schltr. has smaller flowers, sepals ca. 4.5 mm long

CONSEVATION STATUS: DD. Data deficient.

ETYMOLOGY: In reference to Mount Pichincha where the type was collected.





EPIDENDRUM MORRISII Hágsater & L. Cerv.

Plate 462

EPIDENDRUM MORRISII Hágsater et L. Cerv., *sp. nov.*

Type: JAMAICA: [below Morse's Gap], ***Morris: J.P.[Jamaican Plants] 244.*** Holotype: W! (illustration voucher). Isotype: NY!

Epidendro bahorucensi Hágsater & L. Cerv. simile sed caulibus lateraliter compressis, foliis majoribus et latioribus, floribus majoribus, labello cordiformi discrepans.

Hierba epífita colgante, ramificada, larga. **Tallos** ramificados, lateralmente comprimidos, tallos primarios <40 x 0.7-1.0 cm; los secundarios más delgados, 17-19.5 x 0.5-0.7 cm, tallos terciarios más cortos, 8 x 0.5-0.6 cm. **Hojas** articuladas, las de los tallos secundarios y terciarios 5-7, desiguales, las penúltimas más grandes; vainas tubulares estriadas en seco, 1.6-3.9 x 0.7-1 cm; lámina angostamente lanceolada a oblonga, ápice bilobado, coriácea, 5-19.0 x 1.1-2.0 cm. **Brácteas florales** algo imbricadas, conduplicadas, más largas que y envolviendo el ovario, ovadas, 1.3-3.1 x 1.6-1.8 cm. **Espata** ausente. **Inflorescencia** apical, sésil, racemosa, dística, formando una estructura elipsoidal 5-6.5 cm de largo, cuando madura abierta, dejando "huecos" entre las flores y cuando joven muy cerrada. **Flores** 5-6, simultaneas, el labelo siempre orientado hacia el raquis, blancas, coriáceas, fragancia no registrada. **Ovario** dilatado hacia el ápice, ligeramente granulado, 18-22 mm de largo. **Sépalos** entreabiertos, lanceolados, agudos, margen entero, plurinervados, 10-16 x 3-4 mm; los **laterales** oblicuos, con una quilla dorsal, prominente hacia el ápice. **Pétalos** entreabiertos, angostamente elípticos, agudos, margen entero, plurinervado, 14-15 x 2 mm. **Labelo** unido a la columna, entero, cóncavo, cordiforme, margen sinuado, obtuso, 11 x 9 mm; callo carnoso, en forma de "Y" prolongado en una quilla que se desvanece antes de la parte media del disco. **Columna** recta, gruesa, 6 mm de largo. **Clinandrio** reducido, entero. **Rostelo** apical, hendido. **Nectario** penetrando 1/2 del ovario, no ornamentado. **Cápsula** elipsoide, cuerpo de 18-24 x 13-15.5 mm, pedicelo reducido, cuello apical de 6-7 mm de largo.

Epiphytic, hanging, branching **herb. Stems** branching, laterally compressed, main stem thicker than secondary and the short tertiary stems. **Leaves** articulate, unequal, 5-7 leaves on the secondary and tertiary stems, narrowly lanceolate, bilobed, coriaceous. **Floral bracts** somewhat imbricating, conduplicate, longer than the ovary. **Inflorescence** apical, sessile, racemose, distichous, open, and the bracts separate, not imbricating when mature. **Flowers** 5-6, simultaneous, the lip always facing the rachis, white. **Sepals** partly spreading, lanceolate, acute, many-veined, the laterals with a prominent dorsal keel. **Petals** partly spreading, narrowly elliptic, acute, many-veined. **Lip** united to the column, entire, cordiform, obtuse, with "Y"-shaped callus prolonged into a long central keel. **Column** straight, thick. **Clinandrium** reduced, entire. **Nectary** deep, penetrating half the ovary, unornamented. **Capsule** ellipsoid, with a long apical neck, pedicel reduced.

OTHER SPECIMENS: JAMAICA: Cinchona: New Haven Gap to Vinegar Hill, *N.L. Britton 169* NY! Blue Mountains windward slopes, *A. Harris & Lawrence C 15168*, US! Near Mabess River, *W. Harris 7577* BM! Near Vinegar Hill, *W. Harris 7807* BM! Catherine's Peak *W. Harris 7867* BM!

DISTRIBUTION AND ECOLOGY: Known only from Jamaica, at 900-1500 m. Flowering in December, in fruit September to December.

RECOGNITION: *Epidendrum morrisii* belongs to the paranaënse subgroup of the ramosum group, characterized by the pendent, branching plants with long coriaceous leaves and distichous inflorescence; this species can be recognized by its laterally compressed stems, large leaves 5-19 cm long, lax-flowered inflorescence, sepals 10-16 mm long, petals 14-15 mm long, cordiform lip, long column, 6 mm long, and reduced clinandrium. *Epidendrum mora-retanae* Hágsater, from Nicaragua to Panama, has terete stems, smaller flowers, the sepals 10-12 mm long, petals 10-11 mm long and the clinandrium as long as the column proper. *Epidendrum bahorucense* Hágsater & L. Cerv., from the island of Hispaniola, has terete stems, smaller and narrower leaves, smaller flowers, triangular lip, smaller column, 4 mm long.

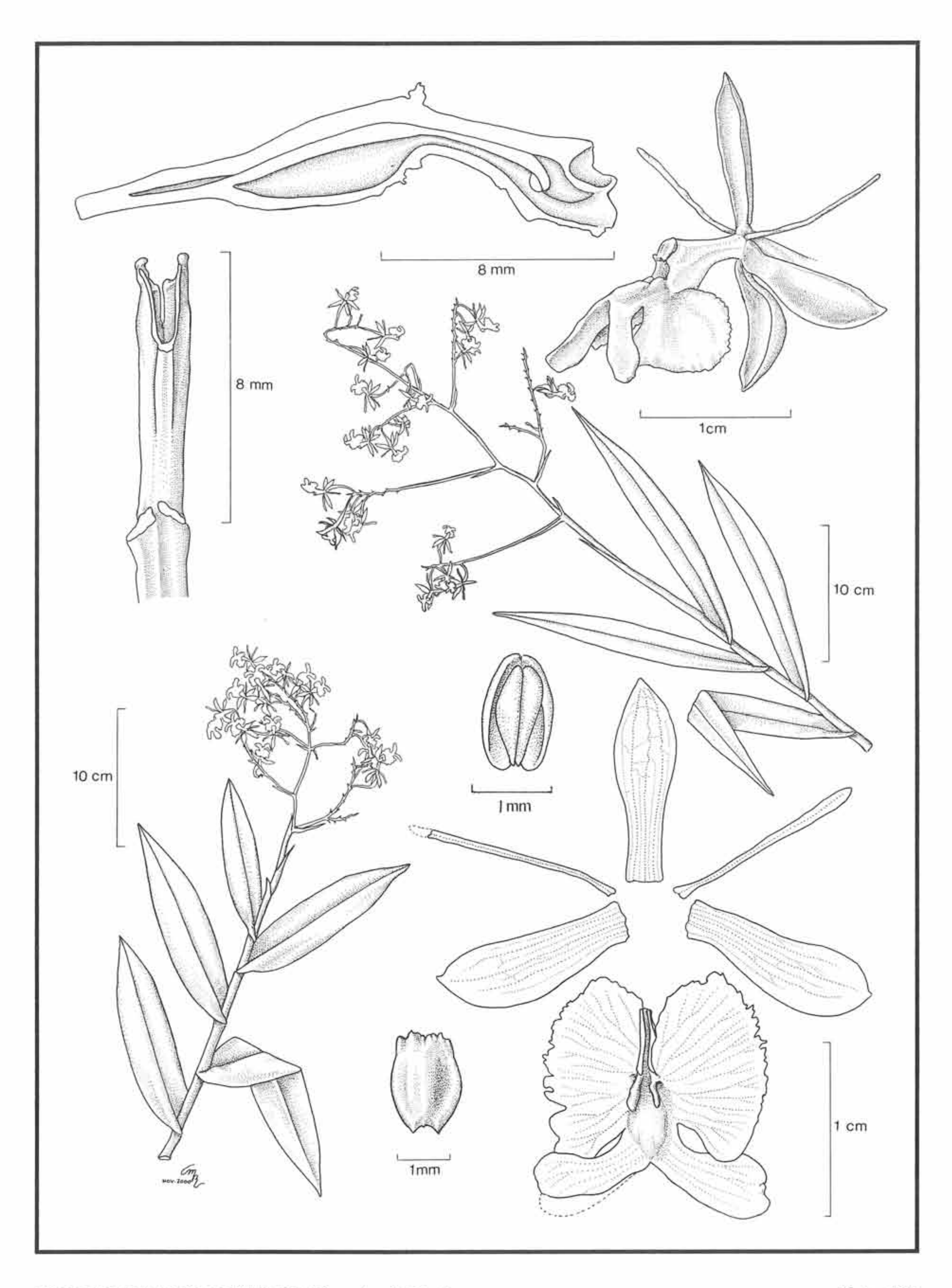
CONSERVATION STATUS: DD. Data deficient.

ETYMOLOGY: In honor of Sir Daniel Morris, who began the Jamaican Herbarium between 1879 and 1886, and who collected the type.

REFERENCES: Fawcett, W. & A. B. Rendle, 1910. Orchidaceae, **Flora of Jamaica** 1: as *E. imbricatum* Lindl., p. 94.

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Authors: E. Hágsater & L. Cervantes **Illustrator: L. Cervantes** **Editors: E. Hágsater & L. Sánchez S.**
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EPIDENDRUM NANEGALENSE Hágsater & Dodson **Plate 463**

EPIDENDRUM NANEGALENSE Hágsater et Dodson, *sp. nov.*

Type: ECUADOR: Pichincha: road Nono-Nanegal, Rio Alambí, km 43-45, 2200-2500 m, 07 May 1967, ***Benkt Sparre 15960.*** Holotype: the stem with the wider leaves S! Isotype: the stem with the narrower leaves, S! (illustration voucher, the two stems, both illustrated). [There is another sheet at S with the same data *B. Sparre 15960*, which corresponds to a different species, *E. embreei* Dodson].

Epidendro porphyreo Lindl. similare sed ovario manifeste inflato vesiculam formanti, callis parvis ad labelli medium sitis, labelli lobulis grandibus et manifeste cordatis, lobulis apicalibus ad apicem dilatatis differt.

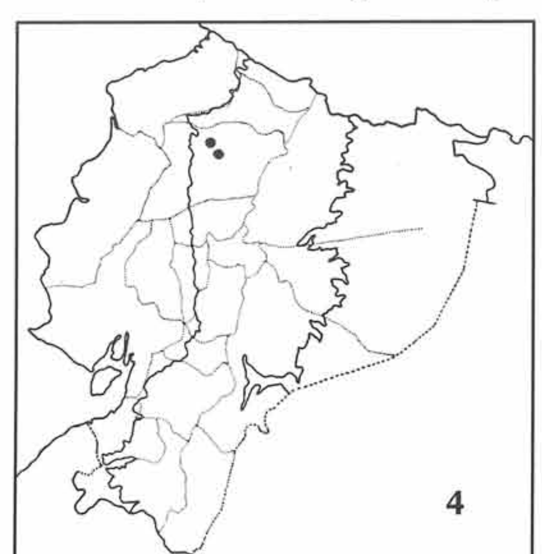
Hierba cespitosa, de alrededor de 1 m de alto. **Raíces** no vistas. **Tallos** sencillos, tipo caña, teretes, rectos, de 0.5-1.0 cm de grosor. **Hojas** numerosas, distribuidas a lo largo del tallo, vaina tubular, lisa, 2.9-4.3 x 0.5-1.0 mm; lámina foliar articulada, elíptica a angostamente elíptica, acuminada, margen entero, lisa, 13-22 x 2.0-4.3 cm. **Espata** ausente. **Inflorescencia** apical, del crecimiento maduro, paniculada, erecta, 24-40 cm de largo; pedúnculo 8-15.5 cm de largo, generalmente provisto de 2-3 brácteas acuminadas, 5.3-9.3 cm de largo; cada rama a su vez provista de una bráctea basal semejantes a las del pedúnculo, 10-35 mm de largo. **Flores** simultáneas, ca. 60-200, resupinadas, probablemente de color morado, sin datos de fragancia. **Brácteas florales** mucho más cortas que el ovario, triangulares, acuminadas, 3-8 mm de largo. **Ovario** terete, delgado, inflado ventralmente en su parte media apical, no ornamentado, 15-25 mm de largo. **Sépalos** extendidos, libres, angostamente espatulado oblanceolados, obtusos, margen extendido y entero, 5-nervados, con nervaduras secundarias intermedias, 11.3-11.6 x 3.5-4.0 mm. **Pétalos** extendidos, libres, filiformes, ápice dilatado, obtuso, margen extendido y entero, 1-nervados, 11.6 x 0.8 mm. **Labelo** unido a la columna, 4-lobado, profundamente cordado, tan ancho entre los lóbulos laterales como entre los apicales, 14 x 13.2 mm; bicalloso, los callos lateralmente comprimidos, laminares, ubicados en el centro del labelo; disco provisto de tres carinas prominentes, romas, la central llegando hasta el seno apical; lóbulos laterales dolabriformes, redondeados, margen eroso, 6.4 x 10 mm;lóbulos apicales divergentes, ensanchados hacia el ápice, redondeados, margen entero, 6.4 x 3.5 mm. **Columna** recta, delgada, 8 mm de largo. **Clinandrio** reducido, entero. **Antera** obovoidea, 4-lócular. **Polinios** 4, tipo ala de pájaro, lateralmente fuertemente comprimidos, desiguales. **Rostelo** subapical, hendido. **Lóbulos laterales del estigma** de alrededor de 1/4 del largo de la cavidad estigmática. **Nectario** penetrando 1/2 del ovario, liso, inflado justo detrás del perianto formando una vesícula prominente. **Cápsula** no vista.

Caespitose **herb. Stems** simple, cane-like, terete, straight. **Leaves** numerous, distributed along the stem; sheaths tubular, smooth; blade elliptic to narrowly elliptic, acuminate, margin entire. **Inflorescence** apical, paniculate, erect, usually provided with 2-3 long, acuminate, bracts. **Flowers** simultaneous, resupinate, probably purple-colored. **Floral bract** much shorter than the ovary, triangular, acuminate. **Ovary** terete, thin, inflated ventrally in the apical half. **Sepals** spreading, narrowly spathulate-oblanceolate, obtuse, 5-veined with intermediate secondary veins. **Petals** spreading, filiform, the apex dilated, obtuse, margin entire, 1-veined. **Lip** four-lobed, deeply cordate, equally wide between the apical and basal lobes; bicallose, in the middle of the lip; lateral lobes dolabriform, rounded, margin erose; apical lobes divergent, widened towards the rounded apex. **Column** straight, thin. **Clinandrium** reduced, entire. **Anther** obovoid, 4-celled. **Pollinia** 4, bird-wing type, strongly compressed, unequal. **Nectary** penetrating half the ovary, inflated behind the perianth to form a prominent vesicle that occupies half the ovary.

OTHER SPECIMENS: ECUADOR: Pichincha: Nanegalito, *Benkt Sparre 14866*, S!

DISTRIBUTION AND ECOLOGY: Known only from around Nanegal and Nanegalito, north west of Quito, on the western slopes of the Andes, at around 1600-2200 m altitude, in subtropical rain forest. Flowering March to May.

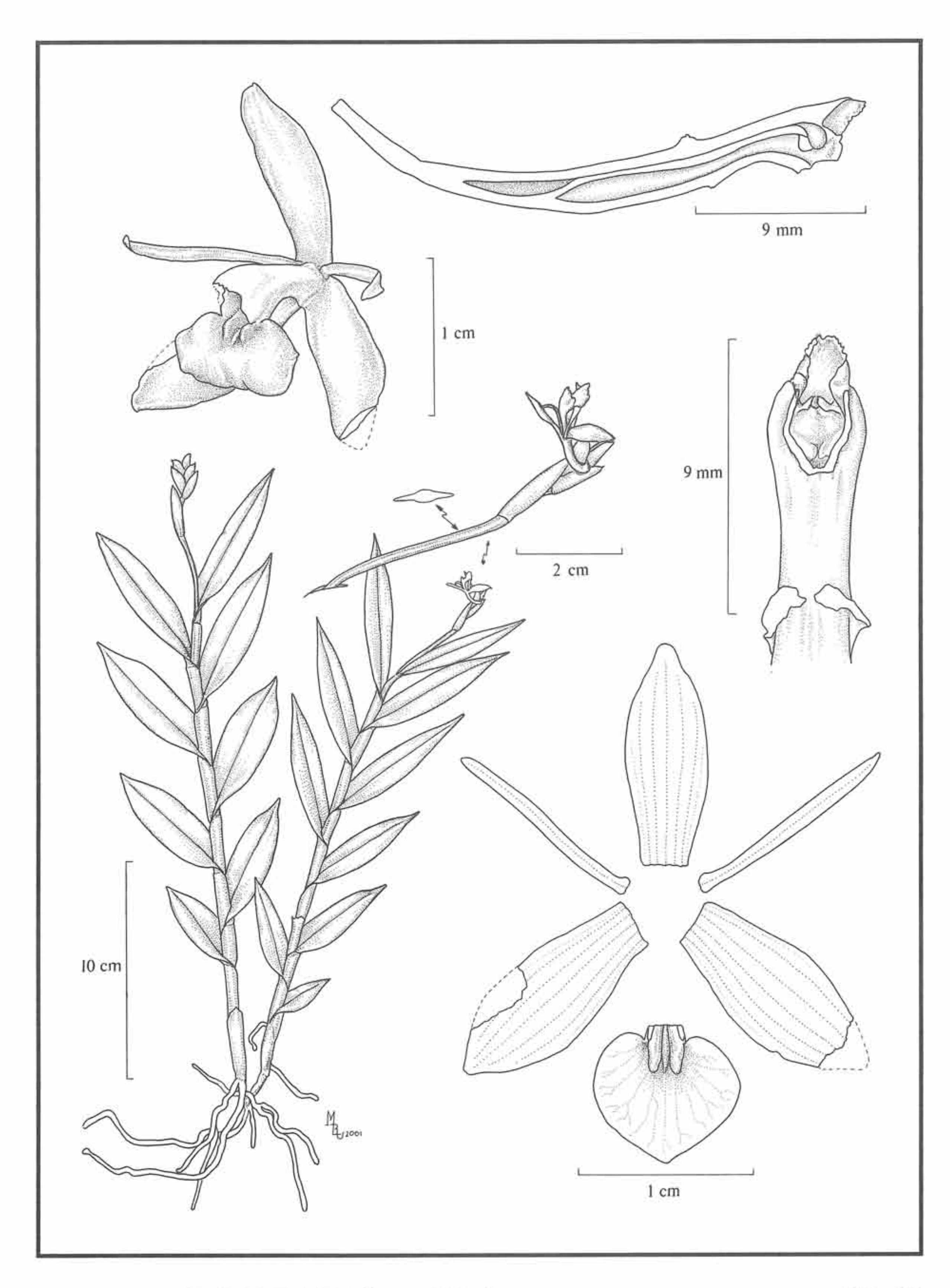
RECOGNITION: *Epidendrum nanegalense* belongs to the paniculatum group recognized by the cane-like stems, paniculate inflorescence, filiform petals, thin column and unequal, bird-wing type pollinia. This species is recognized by the inflated nectary forming a prominent vesicle (rare occurrence in this group), large flowers, probably purple, the large, deeply cordate lip, the lateral lobes dolabriform and erose, the apical lobes divergent, dilated towards the apex. It has been misidentified as *Epidendrum porphyreum* due to the superficial appearance and color of the flowers, but that species does not have an inflated ovary, and has smaller flowers, the lip fleshy with the callus proportionately much larger, and the apical lobes triangular, narrowed towards the apex. *Epidendrum peraltum* Schltr. has larger flowers, the sepals 15-19 mm long, the apical lobes small and opposite, with a large callus, and uninflated ovary. *Epidendrum nanegalense* is sympatric with *Epidendrum embreei* Dodson, and they have been collected together, though the latter has smaller, orange flowers with the segments partly spreading and a thin, uniflated ovary.



CONSERVATION STATUS: DD. Data deficient.

ETYMOLOGY: In reference to the area where the species has been found, around Nanegal and Nanegalito.

Authors: E. Hágsater & C. H. Dodson **Illustrator: M. López R.** **Editors: E. Hágsater & L. Sánchez S.**
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EPIDENDRUM NEMATOPETALUM Hágsater & Dodson

Plate 464

EPIDENDRUM NEMATOPETALUM Hágsater et Dodson, *sp. nov.*

Type: ECUADOR: Zamora-Chinchipe, road from Chuchumbleza to Tundeimi in the Cordillera del Condor, 1450-1650 m, 21 May 1988. ***Alex Hirtz 3822.*** Holotype: RPSC! (illustration voucher). Isotype: AMO!

Epidendro panamensi Schltr. simile sed caulibus elongatis, foliis numerosis secus caulem omnino distributis, bracteis floralibus ovarium non inflatum aequilongis differens.

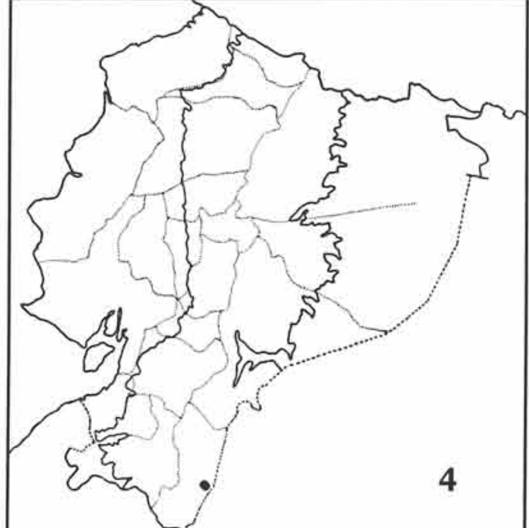
Hierba cespitosa, erecta, de 25-30 cm de alto. **Raíces** basales, carnosas, blancas, 1.1-1.8 mm de grosor. **Tallos** sencillos, tipo caña, ancipitosos, rectos, 19.5-21 x 0.3-0.6 cm. **Hojas** 8-11, distribuidas a lo largo del tallo, desiguales, gradualmente más grandes hacia el ápice del tallo; vainas tubulares, ancipitosas, estriadas, 13.5-30 mm de largo; lámina angostamente elíptica, acuminada, con una quilla dorsal, margen entero, 2.5-10 x 0.8-2.2 cm. **Espata** ausente. **Inflorescencia** apical del crecimiento maduro, racemosa, erecta, 6.3-8 cm de largo; pedúnculo, ancipitoso, de lados paralelos, desnudo, con una bráctea cerca del ápice semejante a las florales pero más grande, conduplicada, elíptica, obtusa, 15-26 mm de largo. **Brácteas florales** tan largas como el ovario, elípticas, obtusas, conduplicadas, imbricadas, 11-15 x 3-5 mm. **Ovario** terete, no inflado, no ornamentado, 15 mm de largo. **Flores** 3-5, sucesivas, sépalos y pétalos verde olivo, el labelo verde; sin datos de fragancia. **Sépalos** casi extendidos, libres, obovado elípticos, obtuso truncados, margen entero, 5-nervados, 12.8-13.2 x 4.7-5.2 mm. **Pétalos** extendidos y arqueados hacia adelante, libres, filiformes, obtusos, margen entero, 1-nervados, 13 x 0.5 mm. **Labelo** unido a la columna, revoluto en posición natural, entero, cordiforme, obtuso, margen entero, 7.8 x 8.6 mm; bicalloso, los callos alargados; unicarinado, la carina intercallosa, corta, delgada. **Columna** recta, 9 mm de largo. **Clinandrio** prominente, arqueado, proyectándose 1/3 más allá del cuerpo de la columna, margen diminutamente dentado. **Antera** no vista. **Polinios** 4, obovoides, caudículas suaves y granulosas, más largas que los polinios. **Rostelo** apical hendido. **Lóbulos laterales del estigma** prominentes, de más de ½ del largo de la cavidad estigmática. **Nectario** casi de ½ del largo del ovario, ligeramente inflado, no ornamentado. **Cápsula** no vista.

Caespitose, erect **herb. Roots** basal, fleshy. **Stems** simple, cane-like, ancipitose, straight. **Leaves** distributed throughout the stem, unequal, gradually larger; sheaths tubular, ancipitose, striated; blade narrowly elliptic, acuminate, margin entire. **Inflorescence** apical, racemose, erect; peduncle ancipitous, sides parallel, nude, with a subapical bract similar to the floral bracts but larger. **Floral bracts** as long as the ovary, elliptic, obtuse, conduplicate, imbricate. **Flowers** successive, sepals and petals olive-green, lip green. **Sepals** nearly spreading, obovate-elliptic, obtuse-truncate, 5-veined. **Petals** spreading and arching forward, filiform, obtuse, 1-veined. **Lip** revolute in natural position, entire, cordiform, obtuse; bicallose, the calli elongate, with a short intermediate keel. **Column** straight. **Clinandrium** prominent, arching, projecting about one third beyond the body of the column, margin minutely dentate. **Nectary** penetrating nearly half the ovary, somewhat inflated.

OTHER SPECIMENS: None seen.

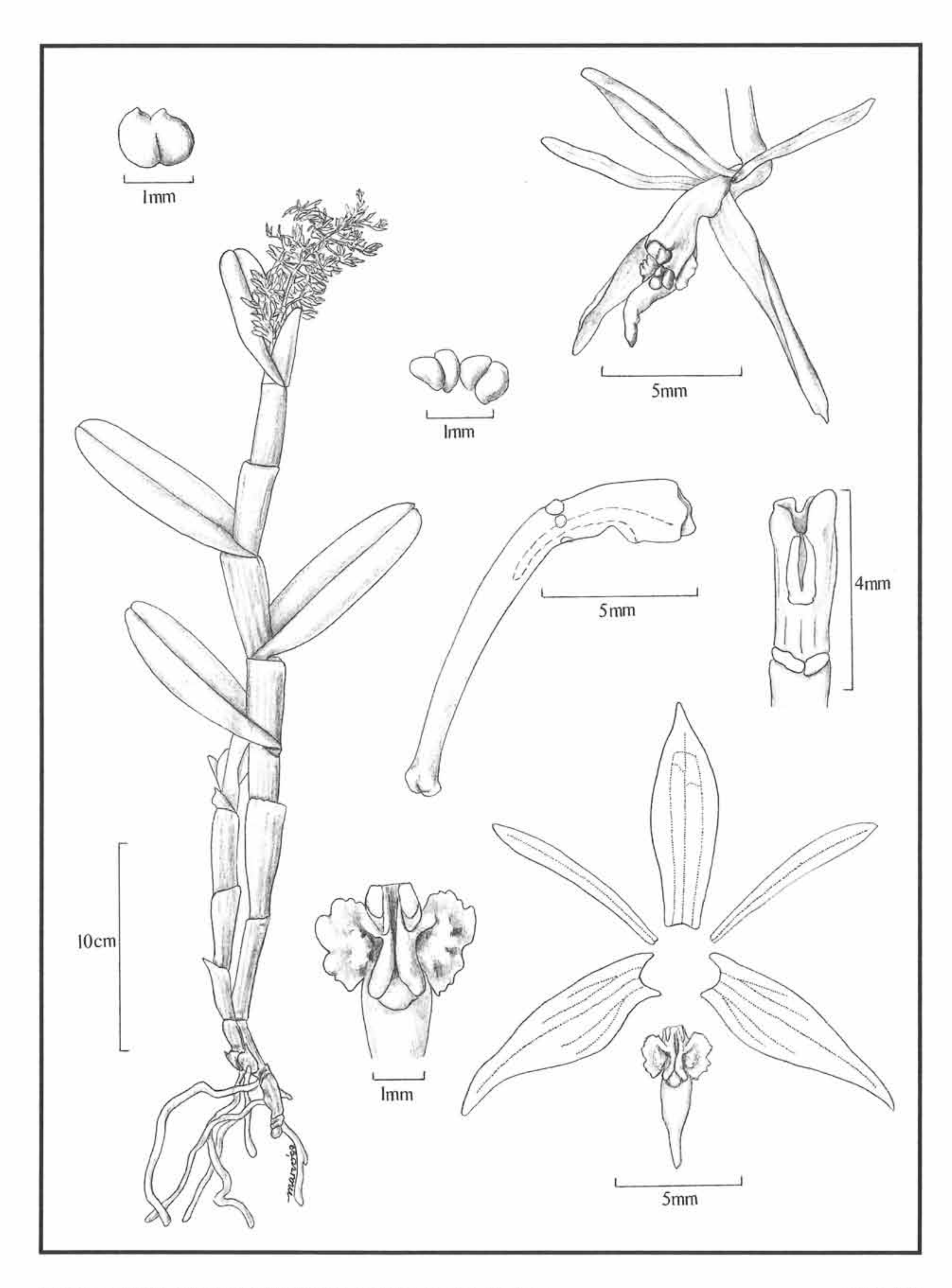
DISTRIBUTION AND ECOLOGY: Ecuador and probably Perú, along the Cordillera del Condor, at 1400-1600 m altitude. Flowering in May, probably throughout the year.

RECOGNITION: *Epidendrum nematopetalum* belongs to the allenii subgroup of the physinga group, distinguished by the caespitose habit, ancipitous stems, apical inflorescence, the apical peduncle ancipitous to the degree of being two-winged, the raceme subtended by a conduplicate bract at the apex of the peduncle, the floral bracts imbricate, flowers successive, one at a time, with a frequently prominent clinandrium. The species is recognized by the filiform petals, the cordiform lip and the prominent clinandrium somewhat arched with the margin minutely dentate. *Epidendrum panamense* Schltr. is similar but has fewer, larger leaves, a short stem, and an inflated ovary and the bracts much shorter than the ovary. *Epidendrum dactyloclinium* Hágsater & Dodson has a prominent three-lobed clinandrium, with the dorsal lobe deeply dentate, the lateral lobes oblong, acute, the lip triangular, the corners rounded, and the petals linear-oblanceolate.



CONSERVATIONS STATUS: DD. Data deficient.

ETYMOLOGY: From the Greek νηματο, thread-like, and πεταλον, petal, in reference to the narrow, thread-like petals, which distinguish this species.



EPIDENDRUM OBLONGIALPICOLUM Hágsater & Dodson Plate 465

EPIDENDRUM OBLONGIALPICOLUM Hágsater et Dodson, *sp. nov.*

Type: ECUADOR: Carchi: San Isidro, 3400 m, 15 July 1983, ***Alex Hirtz 1154.*** Holotype: SEL! (illustration voucher).

Epidendro alpicolo Rchb. f. similare sed floribus minoribus, foliis longioribus et angustioribus lanceolatis divergens.

Hierba epífita, cespitosa, hasta 53 cm de alto. **Raíces** basales, carnosas, gruesas, 1.8- 2.5 mm de grosor. **Tallos** sencillos, tipo caña, lateralmente comprimidos, ligeramente flexuosos, 35 x 0.26-0.8 cm. **Hojas** 6, equidistantes, distribuidas a lo largo del tallo; vainas ancipitosas estriadas a finamente estriadas, 4-6 x 1.0-1.6 cm; lámina oblonga, ápice redondeado a desigualmente bilobado, coriácea, margen entero, 5-11 x 2.0-2.6 cm. **Espata** 1, conduplicada, semiovada, obtusa, papirácea, 4 x 1.2 cm. **Inflorescencia** apical, sésil, arqueada, racemosa, 9 cm de largo. **Brácteas florales** de dos tercios del largo del ovario, triangulares, largamente acuminadas, 7 x 1 mm. **Ovario** liso, terete, no inflado, 10-12 mm de largo. **Flores** ca. 45, simultáneas, no resupinadas, naranja claro, columna blanca, fragancia no registrada. **Sépalos** elíptico lanceolados, libres, glabros, acuminados, margen entero, extendido, 3 nervados, 8-10 x 2.6 mm; los **laterales** oblicuos, nervaduras laterales bifurcados de la parte basal hacia la parte media. **Pétalos** extendidos, angostamente oblanceolados, subagudos, margen entero, uninervados, 7.8 x 0.8 mm. **Labelo** unido a la columna, cordado en la base, trilobulado, 5.6 x 2.5 mm; bicalloso, los callos laminares, prominentes, con un cunículo corto al lado, disco con una quilla muy baja y semiesférica entre los ápices de los callos; lóbulos laterales reniformes, margen irregularmente lobado; lóbulo medio dos veces el largo de los lóbulos laterales, 3.5 x 1 mm, lanceolado, abruptamente acuminado, margen entero. **Columna** ligeramente arqueada, 4 mm de largo. **Clinandrio** reducido, margen entero. **Antera** reniforme, 4-locular. **Polinios** 4, ovoides, lateralmente comprimidos, subiguales. **Rostelo** subapical, hendido. **Lóbulos laterales del estigma** no vistos. **Nectario** aparentemente penetrando ¼ del ovario. **Cápsula** no vista.

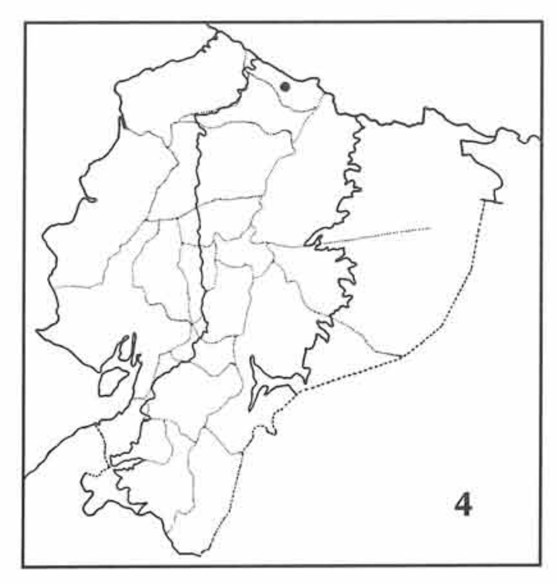
Epiphytic, caespitose **herb. Roots** thick. **Stem** cane-like, ancipitose, flexuous. **Leaves** distributed throughout the stem, oblong, apex rounded to unequally bilobed, coriaceous. **Spathe** 1, conduplicate, semiovate, obtuse, short. **Inflorescence** apical, sessile, arching, racemose, about as long as the leaves. **Floral bracts** 2/3 the length of the ovary, triangular, long-acuminate. **Flowers** simultaneous, non-resupinate, light orange with a white column. **Sepals** lanceolate-elliptic, acuminate, 3-veined, the laterals oblique, with the lateral veins bifurcate at the middle. **Petals** narrowly oblanceolate, subacute, 1-veined. **Lip** united to the column, cordate, 3-lobed, bicallose, the calli laminar, prominent, with a short cunicule on each side, disc with a low semihemispheric keel between the apices of the calli; lateral lobes reniform, margin irregularly lobed; midlobe twice as long as the laterals, lanceolate, abruptly acuminate, margin entire. **Column** slightly arching. **Clinandrium** reduced, margin entire. **Anther** reniform, 4-celled. **Pollinia** 4, obovoid, laterally compressed, subequal. **Nectary** apparently penetrating about one fourth of the ovary.

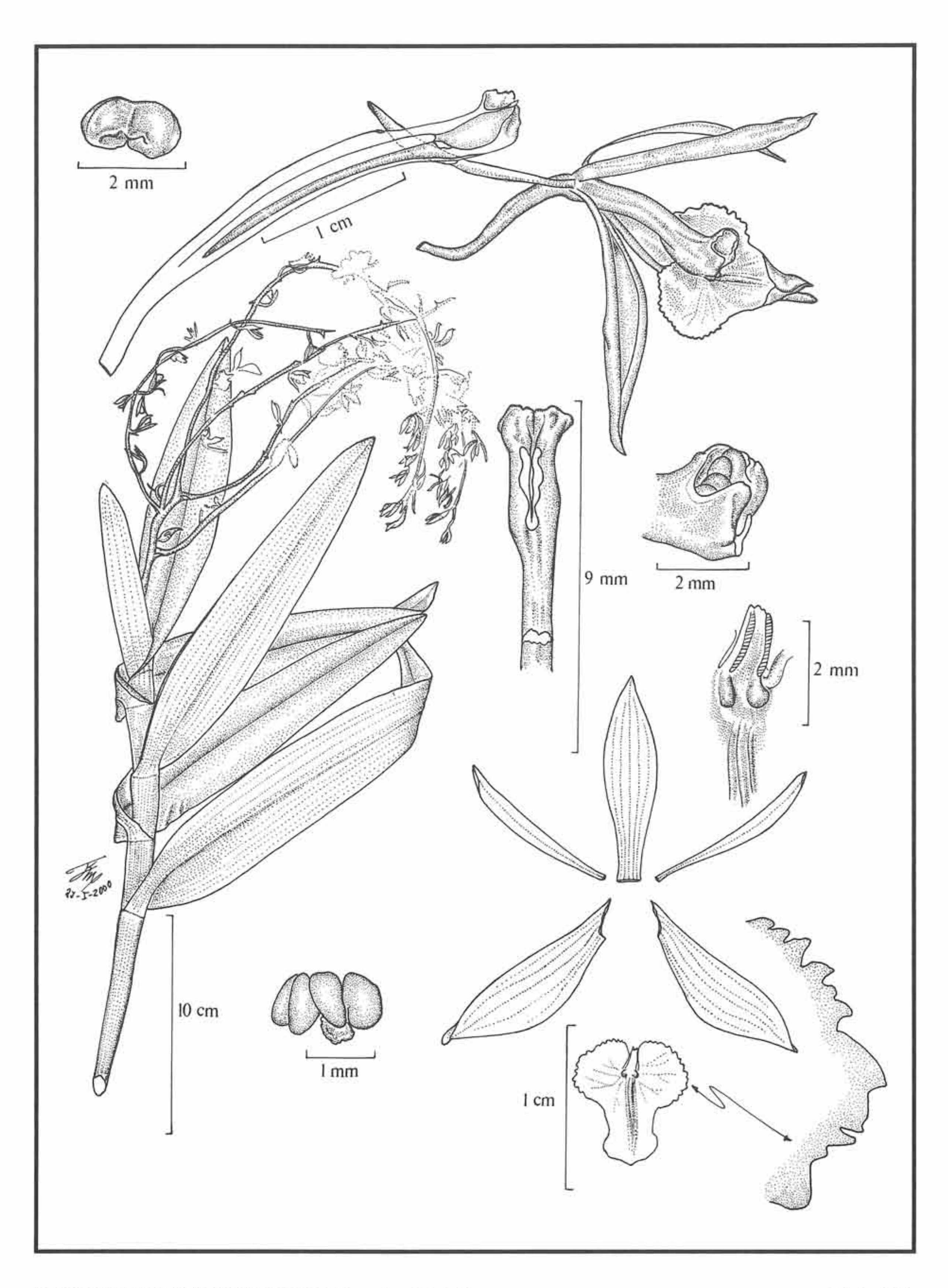
DISTRIBUTION AND ECOLOGY: Known only from the type, Ecuador, San Isidro, Carchi. 3400 m altitude. Flowering in August.

RECOGNITION: *Epidendrum oblongialpicolum* belongs to the alpicolum group and is recognized by the caespitose habit, very wide, ancipitose stem, wide, oblong leaves with a rounded to bilobed apex, and the compact, racemose inflorescence with a short peduncle, sepals 8-10 mm long, the petals oblanceolate, 0.8 mm wide and 1-veined, the lateral lobes irregularly lobed and the midlobe lanceolate, about 3 times longer than wide. *Epidendrum popayanense* F. Lehm. & Kraenzl. has two leaves 120-180 x 15-25 mm, sepals 11 mm long, lateral lobes large, flowers olivaceous green with lip pale dirty yellow. *Epidendrum alpicolum* has larger flowers, sepals ca. 18 mm long, leaves long, lanceolate, and midlobe of lip lanceolate-rhomboid.

CONSERVATION STATUS: DD. Data deficient.

ETYMOLOGY: In reference to the shape of the oblong leaves which sets this species apart from the others of the alpicolum group.





EPIDENDRUM ORTHOCLINIUM Hágsater & Dodson

Plate 466

EPIDENDRUM ORTHOCLINIUM Hágsater et Dodson, *sp. nov*

Type: ECUADOR: Tungurahua: um Baños am Vulkan Tunguragua, 1800-2200 m, 27 Junio 1887, ***F. C. Lehmann 6717.*** Holotype: AMES! (illustration voucher). Isotype: K!

Epidendro baezensi Hágsater & Dodson simile sed habitu majore, foliis acutis longioribusque, spatha singulari acuta, petalis angustioribus acutis, sepalis acutioribus, labelli lobulo medio longiore spathulato discrepans.

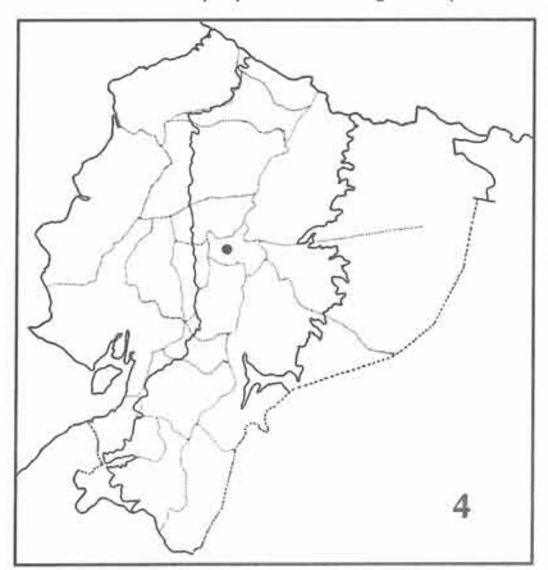
Hierba epífita, hasta 2 m de alto. **Raíces** no vistas. **Tallos** sencillos, tipo caña, lateralmente comprimidos arriba, rectos, hasta de 200 x 0.62-1.4 cm. **Hojas** numerosas, distribuidas a lo largo del tallo, alternas, coriáceas; vaina tubular, lateralmente aplanada, estriadas en seco, 1.6-5.6 x 1.08-1.4 cm de largo; lámina elíptico lanceolada, ápice agudo a angosta y desigualmente bilobado, con una quilla dorsal, margen entero, lisa, verde teñida de pardo, 16-20 x 3.4-3.7 cm. **Espata** 1, prominente, conduplicada, aguda, margen entero, 9.6 x 1.6 cm. **Inflorescencia** apical, del tallo maduro, paniculada, arqueada, 39 cm de largo; pedúnculo cubierto totalmente por la espata, lateralmente aplanado, desprovisto de brácteas, 6 cm de largo. **Brácteas florales** mucho más cortas que el ovario, triangulares, agudas, 1.4 mm de largo. **Flores** ca. 150, simultáneas, resupinadas, amarillo verdosas, sin datos de fragancia. **Ovario** delgado, terete, no ornamentado, 8-10 mm de largo. **Sépalos** entreabiertos, libres, glabros, agudos, margen entero y extendido, 5-nervados; el **dorsal** angostamente obovado, 12 x 3.2 mm; los **laterales** oblicuos, angostamente elípticos, con una quilla dorsal, 11-12 x 3.4-3.7 mm. **Pétalos** extendidos, libres, linear oblanceolados, agudos, margen extendido, falcados, 1-nervados, 10-11 x 1.2 mm. **Labelo** unido a la columna, trilobado, cordado en la base, 7.4 x 6.8 mm; bicalloso, los callos pequeños; disco tricarinado, la carina central prominente, aguda; lóbulos laterales semicirculares, margen dentado, 2.8 x 4 mm; lóbulo medio cuneado, espatulado, formando un plato suborbicular cerca del ápice, apiculado, margen entero, 3.7 x 3.1 mm. **Columna** delgada, recta, arqueado hacia arriba a la altura del clinandrio, 9 mm de largo. **Clinandrio** corto, erecto, márgenes laterales algo erosos. **Antera** reniforme, 4-locular. **Polinios** 4, obovoides, lateralmente comprimidos, subiguales; caudículas suaves y granulosas, más largas que los polinios. **Rostelo** apical, hendido. **Lóbulos laterales del estigma** pequeños, 1/3 del largo de la cavidad estigmática. **Nectario** penetrando más de la mitad del ovario, no ornamentado. **Cápsula** no vista.

Epiphytic **herb. Stems** tall, cane-like, laterally compressed above. **Leaves** numerous, coriaceous, sheath laterally flattened, blade elliptic-lanceolate, apex acute, narrow, unequally bilobed. **Spathe** single, prominent, conduplicate, acute. **Inflorescence** apical, paniculate, arching. **Floral bracts** minute, triangular, acute. **Flowers** numerous, simultaneous, non-resupinate, greenish yellow. **Ovary** thin, terete. **Sepals** partly spreading, 5-veined, narrowly obovate to elliptic, acute, the laterals oblique, with a dorsal keel. **Petals** spreading, oblanceolate, acute, falcate, 1-veined. **Lip** three-lobed, cordate, bicallose, the calli small, three-keeled, the central keel prominent; lateral lobes semicircular, margin dentate; apical lobe cuneate, spathulate, forming a suborbicular plate near the apex, apiculate, margin entire. **Column** thin, straight. **Clinandrium** upright, short, lateral margins somewhat erose. **Anther** reniform. **Pollinia** 4, obovoid, laterally compressed, subequal, caudicles smooth and granulose. **Nectary** penetrating more than half the ovary.

OTHER SPECIMENS: None seen.

DISTRIBUTION AND ECOLOGY: Known only from the type, on the northern side of the Volcán Tunguragua, on the eastern side of the Andes in central Ecuador, at around 1800-2200 m altitude. Growing on trees. Flowering in June.

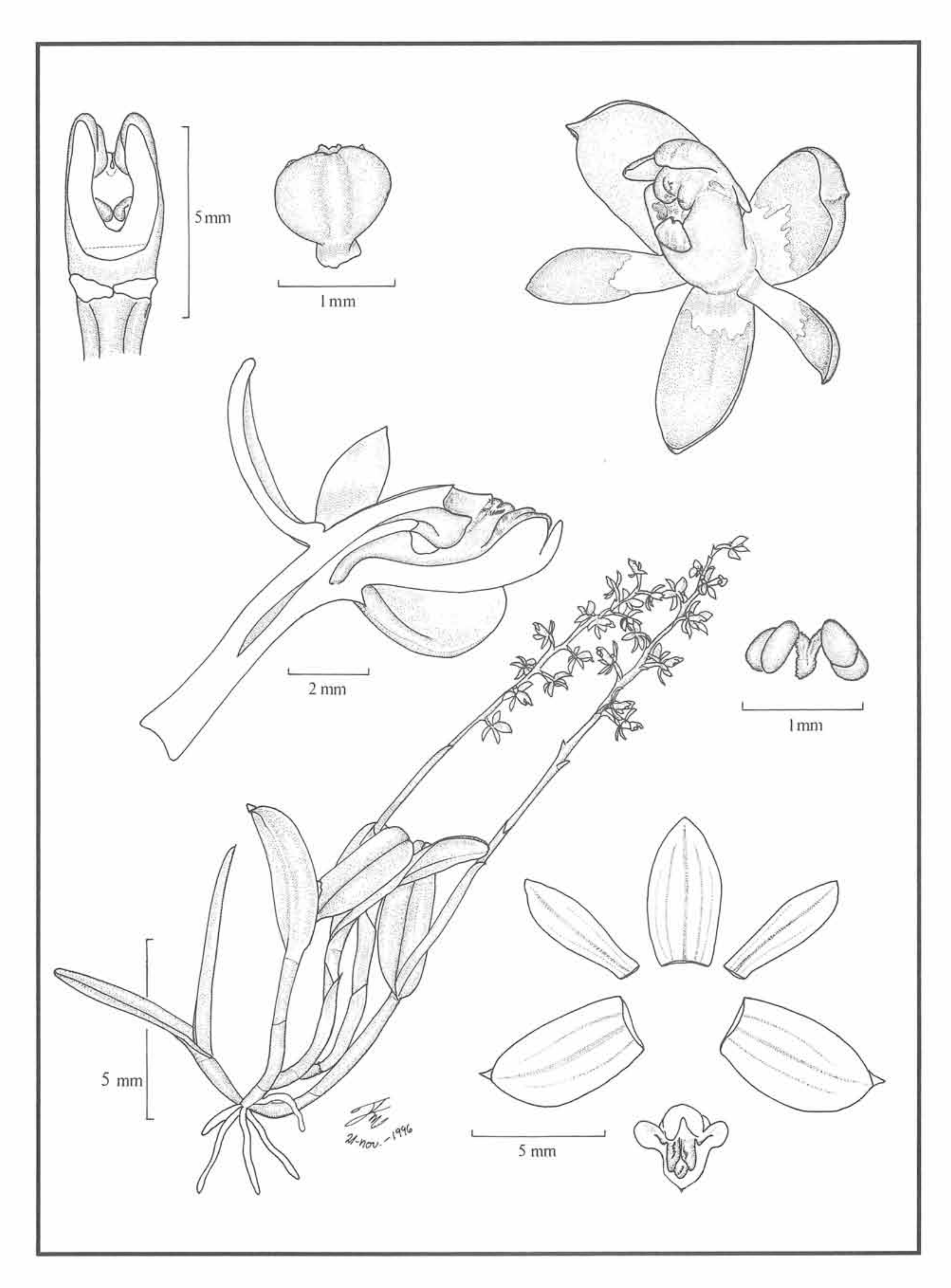
RECOGNITION: *Epidendrum orthoclinium* belongs to the excisum group, excisum subgroup, with simple, cane-like stems, a prominent acute spathe, a paniculate inflorescence, and resupinate flowers; the species is recognized by the short, upright clinandrium, the shallowly three-lobed lip, midlobe cuneate and widened at the apical half to form a spathulate, suborbicular, apiculate plate, and the linear-oblanceolate, acute petals. *Epidendrum baezense* has narrower leaves, the petals wider and rounded, the midlobe of the lip square and emarginate. *Epidendrum excisum* Lindl. has oblong, blunt, bilobed leaves, two rounded spathes, the lip deeply three-lobed; it is found at about the same altitude in the area. *Epidendrum llaviucoënse* Hágsater & Dodson, though vegetatively somewhat similar, with larger, obtuse, leaves, has a nodding, racemose inflorescence with two large, non-conduplicate, acute spathes, the floral segments wider, the lip subreniform with a small, bilobed apical lobe.



CONSERVATION STATUS: DD. Data deficient. Though the area around Baños has been heavily collected, we have been unable to find any other specimen.

ETYMOLOGY: From the Greek ορθος -upright, and κλινη -bed, in reference to the upright clinandrium, which is unique to this species.

Authors: E. Hágsater & C. H. Dodson **Illustrator: R. Jiménez M.** **Editors: E. Hágsater & L. Sánchez S.**
Herbario AMO Apartado Postal 53-123, 11320 México, D.F., MÉXICO



EPIDENDRUM PACHOI Hágsater & L. Sánchez

Plate 467

EPIDENDRUM PACHOI Hágsater et L. Sánchez, *sp. nov.*

Type: COLOMBIA: Antioquia: [Finca] Normandia, 1 enero 1993, prensado de material cultivado 30 enero 1998, ***Colomborquídeas, Francisco "Pacho" López sub Eric Hágsater 11557.*** Holotype: AMO! Clonotypes: prensado de material cultivado 19 diciembre 1996 AMES! COL! (illustration voucher).

Epidendro manco Lindl. similare sed foliis binis apicalibus, inflorescentia longiore, petalis lineari-lanceolatis trinervatis, labello trilobato differt.

Hierba epífita, rastrera, erecta, de 19-23 cm de alto incluyendo la inflorescencia. **Raíces** basales, delgadas, carnosas, blancas, de 1.8-2 mm de grosor. **Tallos** delgados, tipo caña, ligeramente engrosados hacia la parte media, lateralmente comprimidos sin llegar a ser ancipitosos, formados de 4 entrenudos, originándose del 2° entrenudo del tallo anterior, de 3-5 x 0.3-0-4 cm. **Hojas** 1-2 en el ápice del tallo; vaina tubular, lisa, 1.5-3.6 cm de largo; lámina carnosa, coriacea, lanceolada a angostamente elíptica, redondeada, con el ápice desigualmente bilobado, con un pequeño apículo, sin quilla en la parte dorsal, 4.2-7.5 x 1.2-1.6 cm. **Espata** 1-2, una en la base y una bráctea espatacea en la parte media del pedúnculo, de lados casi paralelos, ápice obtuso, de 2.0-4.8 cm de largo. **Inflorescencia** apical, del crecimiento maduro, erecta, florece una sola vez, racemosa, 11-18 cm de largo; pedunculo lateralmente comprimido. **Brácteas florales** mucho más cortas que el ovario, triangulares, agudas, verdes, 1.5-3.8 x 1.0-2.2 mm. **Ovario** no ornamentado, terete, no inflado, 5.5-7.5 x 0.7-1.0 mm. **Flores** 7-13, no resupinadas, simultáneas, sépalos y pétalos café rojizos difuminados de verde en la base, labelo café rojizo, columna blanca con manchas purpura en el ápice, callo blanco con puntos púrpura; fragancia no registrada. **Sépalos** extendidos, ligeramente incurvados, ovados, obtusos, apiculados, 5-nervados, 4.5-5.2 x 2.0-3.0 mm. **Pétalos** extendidos, ligeramente incurvados, elípticos, agudos, 3-nervados, la vena central más evidente que las laterales, 4.3-4.6 x1.3-1.5 mm. **Labelo** unido a la columna, trilobado, 2.7 x 3.5 mm; bicalloso, los callos prominentes, y con una carina central prominente, la cual se prolonga hasta la mitad del lóbulo medio; lóbulos laterales suborbiculares, 0.5-0.7 x 0.5-0.6 mm; lóbulo medio subtriangular, obtuso, con un pequeño apículo, 1.2 x1.2 mm. **Columna** ligeramente arqueada, gruesa, 4.5 mm de largo. **Clinandrio** reducido, entero. **Rostelo** apical, hendido. **Antera** elipsiode, con una quilla roma muy baja al frente que termina en un proceso laminar truncado, 4 locular. **Polinios** 4, elipsoides, lateralmente comprimidos, subiguales; caudículas suaves y granulosas, más cortas que los polinios; viscidio semilíquido transparente. **Lóbulos laterales del estigma** de 1/3 de la cavidad estigmática. **Nectario** sin traspasar el perianto, no ornamentado. **Cápsula** no vista.

Epiphytic, creeping **herb. Stems** cane-like, short, laterally compressed. **Leaves** 1-2, apical, unequally bilobed, coriaceous, margin entire. **Spathes** 1-2, subparallel sided, obtuse. **Inflorescence** apical, racemose, erect; peduncle laterally compressed. **Floral bracts** much shorter than the ovary, triangular, acute. **Ovary** unornamented, terete, not inflated. **Flowers** 7-13, non-resupinate, simultaneous, sepals and petals reddish-brown, greenish at the base, lip reddish-brown, column and calli white with purple dots . **Sepals** free, ovate, obtuse, 5-veined. **Petals** elliptic, acute, 3-veined. **Lip** united to the column, three-lobed; bicallose, the calli prominent, with a prominent intermediate keel; lateral lobes suborbicular; midlobe subtriangular, obtuse. **Column** somewhat arched. **Clinandrium** reduced, entire. **Nectary** short, without surpassing the perianth, unornamented.

OTHER SPECIMENS: COLOMBIA: Antioquia: El Retiro: La Horqueta, 2500 m, *Pacho López sub R. Escobar 5227* AMO! Medellin: Cerro of Amaya, 2000 m, *M. Ospina 3* JAUM! Cerro Padre Amaya, 2500-2700 m *R. Robledo 27 & C. A. Luer 2827* SEL! San Jerónimo: Cerro del Padre Amaya, camino hacia la antena de televisión, 2650 m, *E. Hágsater, R. Escobar, C. Luer, A. Pridgeon, M. Webb 7287* AMO!

OTHER RECORDS: COLOMBIA: Without locality, *P. Ortíz Valdivieso 77* (ilustration at Herb. POV)!

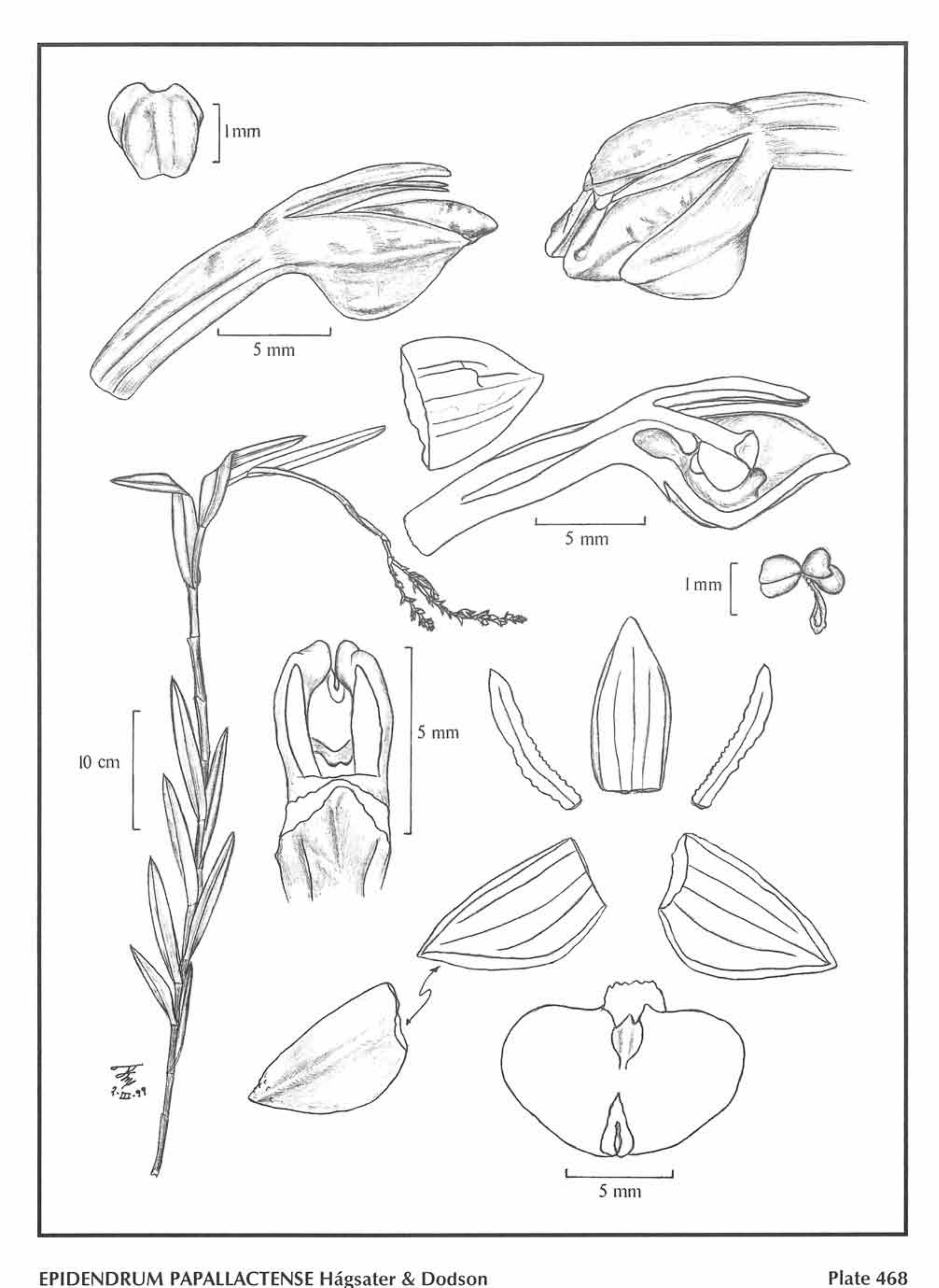


DISTRIBUTION AND ECOLOGY: Known only from northern Colombia, near Medellín, 2500 m altitude. Flowering from December to January.

RECOGNITION: *Epidendrum pachoi* Hágsater & L. Sánchez belongs to the mancum group, and is recognized by its two apical leaves, three-veined, elliptic petals, three-lobed lip. It is very similar to *Epidendrum mancum*, which has 3-4 leaves, smaller inflorescence, spathulate petals, and an entire lip. *Epidendrum microglossum* Schltr. has larger plants, narrower, linear-lanceolate leaves. *Epidendrum brachyglosum* Lindl., has 3-4, linear-lanceolate leaves, and an obscurely 3-lobed lip. *Epidendrum adenoglossum* Lindl. has larger plants, longer leaves, 3-veined petals and an entire, linear lip.

CONSERVATION STATUS: DD. Data deficient.

ETYMOLOGY: The name Pacho is short for Francisco in honor of Francisco López, collector and gardener at Colomborquídeas, who collected the plant used to prepare the type.



EPIDENDRUM PAPALLACTENSE Hágsater & Dodson

Plate 468

EPIDENDRUM PAPALLACTENSE Hágsater et Dodson, *sp. nov.*

Type: ECUADOR: Napo: Tena-Baeza, Papallacta, 3800 m. ***A. Hirtz 1512.*** Holotype: QCNE! (illustration voucher). Isotype: AMO!

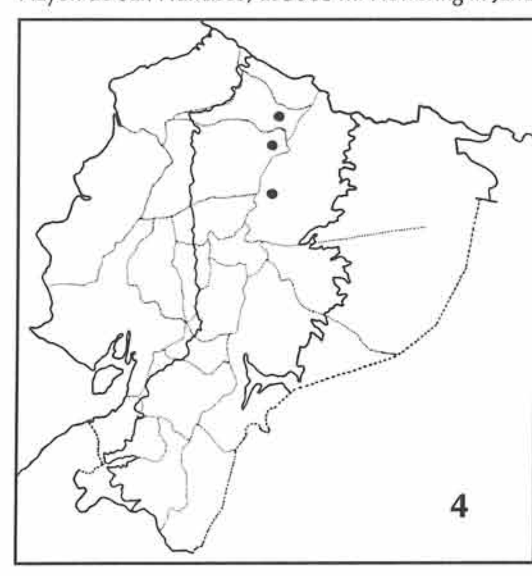
Epidendro frutex Rchb. f. simile sed foliis minoribus, pedunculo elongato, labello reniformi.

Hierba cespitosa, 45-75 cm de alto. **Raíces** basales, gruesas, 2-4 mm de grosor. **Tallos** erectos, sencillos, tipo caña, algo lateralmente comprimidos, 46-70 cm de largo. **Hojas** 11-12, distribuidas a lo largo del tallo, suberectas; vainas tubulares, ancipitosas, finamente rugosas y estriadas en seco, 2.5-5 x 0.25-0.7 cm; lámina angostamente lanceolada, aguda, margen eroso, margen apical ligeramente dorsalmente carinada, 7.5-14 x 1.4-2.0 cm. **Espata** ausente. **Inflorescencia** apical, del tallo maduro, racemosa a paniculada [con el tiempo produce nuevos racimos de los nodos del pedúnculo y en ocasiones de entre las hojas superiores, por lo que puede aparecer como con inflorescencias laterales], arqueado colgante, 9-31 cm de largo; pedúnculo largo, ancipitoso, arqueado, 5-15 cm de largo. **Brácteas del pedúnculo** 1-2, distribuidas en la mitad apical, acuminadas, conduplicadas, 12-37 mm de largo. **Brácteas florales** igual o más cortas que el ovario, ovado triangulares, agudas a acuminadas, rugosas, extendidas con respecto del raquis sin llegar a ser perpendiculares, 5-10 x 5-6 mm. **Flores** hasta 13-34 por racimo, sucesivas, 2-3 abiertas a la vez, desarrollándose poco a poco junto con la inflorescencia, subdísticas, el labelo siempre hacia el raquis, carnosas, sépalos y pétalos azules a negros, labelo verde oscuro a negro, columna verde. **Ovario** grueso, no inflado, no ornamentado, 5-10 mm de largo, alargándose al ser fecundado. **Sépalo dorsal** casi cerrado, ovado, agudo, carnoso, dorsalmente ligeramente rugoso hacia el ápice, 3-nervado, 8 x 4 mm. **Sépalos laterales** casi cerrados, ovados, oblicuos, agudos, carinado, la carina roma, carnosos, no ornamentados, 3-nervados, 9 x 5.5 mm. **Pétalos** casi cerrados, adpresos al sépalo dorsal, ligeramente curvos, angostamente oblongos, agudos, margen eroso, 1-nervados, 7 x 1 mm. **Labelo** unido a la columna, entero, anchamente reniforme, redondeado; carnoso, se puede extender una vez rehidratado, en posición natural los lados abrazando el ápice de la columna sin encimarse arriba y apenas dejando una pequeña apertura en el ápice, 7 x 11 mm al extenderse; unicalloso, el callo en forma de "Y"; sin quillas. **Columna** recta, gruesa, 5-6 mm de largo. **Clinandrio** corto, en forma de embudo, entero. **Antera** ovoide, carnosa, 4-locular. **Polinios** obovoides, lateralmente comprimidos, redondeados, caudículas ligeramente más largas, viscidio semilíquido. **Rostelo** apical, hendido. **Nectario** sin traspasar el perianto, estrecho detrás de la cavidad estigmática y después formando una cavidad ancha en la base de la columna, no ornamentado. **Cápsula** elipsoide, 37 x 18 mm, pedicelo muy corto, 3 mm, cuello apical muy corto, 2 mm.

Caespitose herb. **Stems** cane-like, somewhat laterally flattened. **Leaves** numerous, distributed throughout the stem, sheath tubular, subancipitose, rugose and striated; blade narrowly lanceolate, acute, margin erose. **Inflorescence** apical, arching, racemose or paniculate, and then, as it develops, producing new racemes from both the nodes of the peduncle, and sometimes from the base of the upper leaves, thus giving an appearance of lateral inflorescences; peduncle elongate. **Floral bracts** shorter than or equal to the ovary, spreading, ovate-triangular to acuminate, rugose. **Ovary** thick, elongating when pollinated. **Flowers** successive, 2-3 open at one time, developing together with the rachis, subdistichous, lip always turned towards the rachis, fleshy, sepals and petals blue to black, lip green to black, column green. **Sepals** nearly closed, ovate, acute, 3-veined, the dorsal somewhat rugose near the apex dorsally; the laterals oblique, dorsally keeled. **Petals** adpressed to the dorsal sepals, narrowly oblong, acute, 1-veined. **Lip** widely reniform, rounded, callus "Y" shaped, sides upturned in natural position. **Column** straight, thick. **Clinandrium** short, funnel-shaped, entire. **Nectary** not surpassing the perianth. **Anther** ovoid, fleshy. **Capsule** ellipsoid, pedicel and neck very short.

OTHER SPECIMENS: ECUADOR: *Sodiro s.n.*, QPLS! (x3) *Sodiro, s.n.* QPLS! **Imbabura:** E. of Volcán Cayambe, *Drew E-329*, AMES! **Sucumbios:** El Mirador, *Boeke & Jaramillo 2726*, NY! *Jaramillo & Boeke 615*, QCA! QCNE!

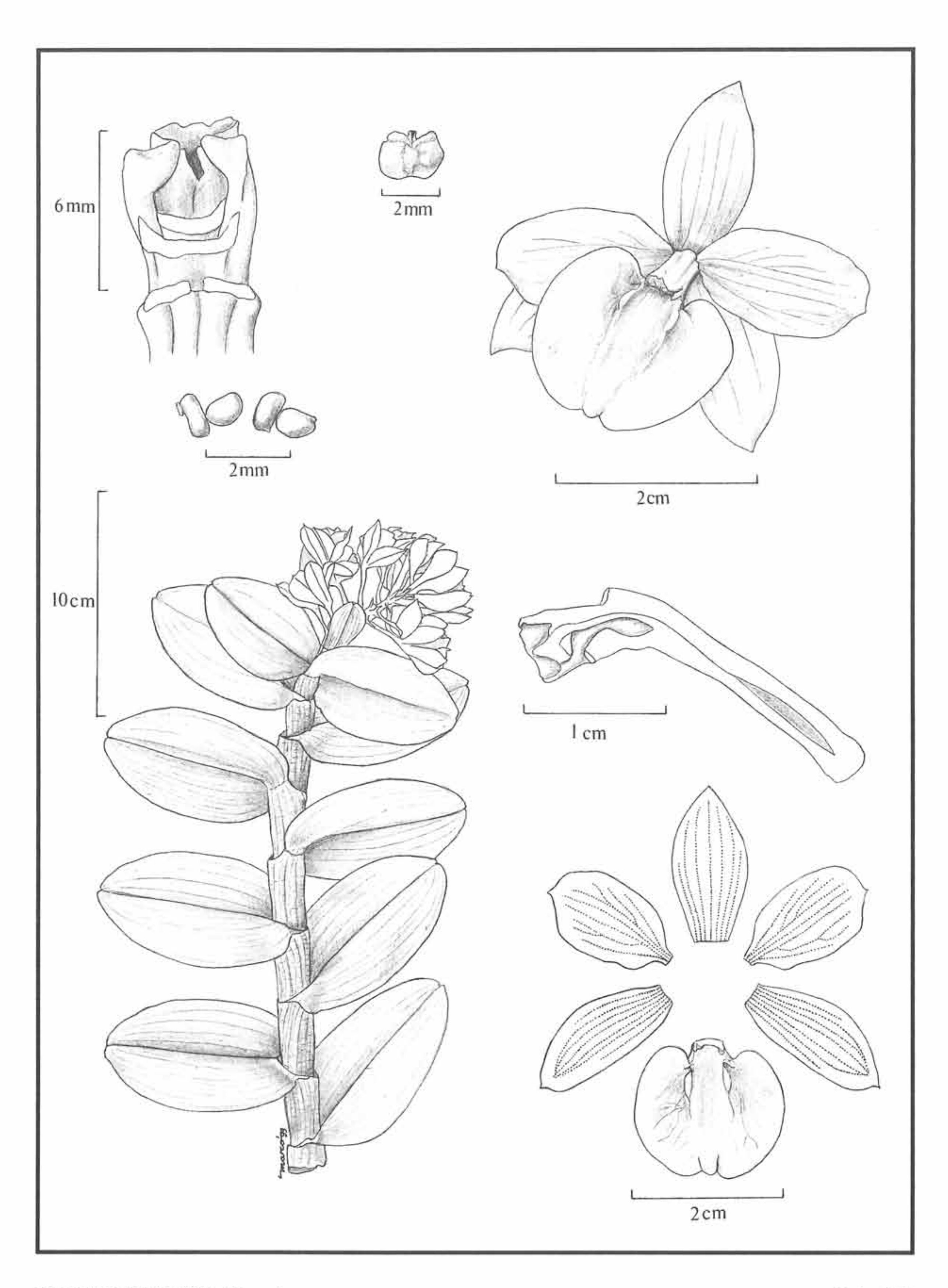
DISTRIBUTION AND ECOLOGY: Known only from the eastern Andes in central Ecuador, around Papallacta, and north to Playón de San Francisco, at 3800 m. Flowering in January and August; probably throughout the year.



RECOGNITION: *Epidendrum papallactense* is recognized by the simple stems, numerous leaves, elongate peduncle of a racemose to paniculate inflorescence (it starts as racemose or paniculate, and then, as it develops produces new racemes from both the nodes of the peduncle, and sometimes from the base of the upper leaves, thus giving an appearance of lateral inflorescences), distichous inflorescence, the blue to black and green flowers, entire, widely reniform lip, petals narrowly oblong with basal margin erose. It is peculiar in not having any ornamentation on the nectary, where most other similar species are pubescent. *Epidendrum indanzense* Hágsater & Dodson also has a elongate peduncle, but the flowers are widely open, lip cordiform, nectary pubescent at the throat, petals elliptic, and generally quite different. It seems best placed close to *E. frutex* which has a similar habit, paniculate inflorescence, though a shorter peduncle, longer leaves and a rhombic lip. *Epidendrum harlingii* Hágsater & Dodson is very similar and has smaller leaves, a short peduncle, and entire petals; the flowers are brownish violet. *Epidendrum aquaticoides* C. Schweinfurth has orange-red flowers.

CONSERVATION STATUS: DD. Data deficient.

ETYMOLOGY: In reference to the town of Papallacta, where the type specimen was collected.



EPIDENDRUM PAZII Hágsater

Plate 469

EPIDENDRUM PAZII Hágsater, *sp. nov.*

Type: COLOMBIA: Chocó: San José del Palmar, Las Amarillas, Carretera Boqueron-Río Blanco, 2300 m, 02 Apr. 1996, ***Néstor Paz, F. Castro, A. Fajardo & P. Grant 493.*** Holotype: CUVC! Isotypes: AMO! (illustration voucher), COL! CUVC!

Epidendro andersonii Hágsater & Dodson similare sed foliis latioribus, floribus successivis, callis longioribus recedit.

Hierba terrestre, ramificada, de 1-2.5 m de alto. **Raíces** no vistas. **Tallos** ramificados, tipo caña, lateralmente aplanados, de 100-200 x 1x 1.5 cm, ramas de 44 cm de largo. **Hojas** numerosas, distribuidas a lo largo del tallo, alternas, persistentes, subcoriáceas; vaina tubular, lateralmente aplanada, estriada, rugosa, 1-4.2 x 0.9-1.5 cm; lámina elíptica, ápice bilobado a desigualmente bilobado, margen diminutamente dentado, 5.5-9 x 3.6-4.8 cm, las hojas del tallo principal algo mayores que las de las ramas, la hoja apical, en la base de la inflorescencia, menor. **Espata** ausente. **Inflorescencia** apical, racemosa, suberecta a arqueada, 7.0-8.5 cm de largo; pedúnculo corto, lateralmente aplanado, desprovisto de brácteas, 1 cm de largo. **Brácteas florales** mucho más cortas que el ovario, triangulares, abrazadoras, largamente acuminadas, 4-6 mm de largo. **Flores** 12-17, sucesivas, 8 abiertas simultáneamente, abriendo de la base de la inflorescencia hacia el ápice, resupinadas, color verde cremas, fragancia placentera. **Ovario** terete, no ornamentado, no inflado, 10-25 mm de largo. **Sépalos** extendidos, libres, 7-nervados; el **dorsal** obovado, agudo, margen entero, 21 x 10.3 mm; los **laterales** elíptico obovados, apiculados, margen entero, oblicuos, 21 x 8.5 mm. **Pétalos** extendidos, libres, elíptico obovados, apiculados, margen entero, 3-nervado, las nervaduras laterales bifurcadas desde la base, 18 x 11 mm. **Labelo** unido a la columna, entero, cordado en la base, reniforme emarginado, con una carina central baja, formando un apículo grueso y romo en el seno; 17.5 x 20 mm; bicalloso, los callos laminares y alargados, paralelas, separados entre sí. **Columna** recta, gruesa, 6 mm de largo. **Clinandrio** llega hasta el ápice de la columna, margen entero. **Antera** reniforme, 4-locular. **Polinios** 4, obovoides, lateralmente comprimidos. **Lóbulos laterales del estigma** de ½ de largo de la cavidad estigmática. **Nectario** poco profundo, penetrando ¼ del ovario, no ornamentado. **Cápsula** no vista.

Terrestrial, branching **herb. Stems** branching, erect, cane-like, laterally compressed. **Leaves** numerous, distributed throughout the stems, widely elliptic, about twice as long as wide, rounded to unequally bilobed. **Inflorescence** apical, arching, peduncle short, flattened. **Floral bracts** shorter than the ovary, triangular, acuminate. **Ovary** terete. **Flowers** successive, ca. 8 open at one time, opening from the base towards the apex, creamy green colored, with a pleasant fragrance. **Sepals** spreading, 7-veined, the **dorsal** obovate, acute, **laterals** elliptic-oblong, apiculate, oblique. **Petals** spreading, elliptic-obovate, apiculate, 3-veined, the lateral veins bifurcate near the base. **Lip** united to the column, entire, cordate, reniform, emarginate, with a central low keel forming a thickened apicule, bicallose, the keels laminar, elongate, parallel and separated. **Column** straight, thick. **Clinandrium** reaching the apex of the column, entire. **Anther** reniform. **Nectary** penetrating one fourth of the ovary, unornamented.

OTHER SPECIMENS: COLOMBIA: Valle del Cauca: km 18 Cali-Buenaventura, *Guarín 105*, COL! Vereda Las Amarillas, Serranía de Los Paraguas, 1850-2000 m, *Luteyn & Giraldo 12653*, NY!

DISTRIBUTION AND ECOLOGY: Known only from the Cordillera Occidental in western Colombia, on the border between the departments of Chocó and Valle del Cauca, 1850-2300 altitude. Flowering in April.

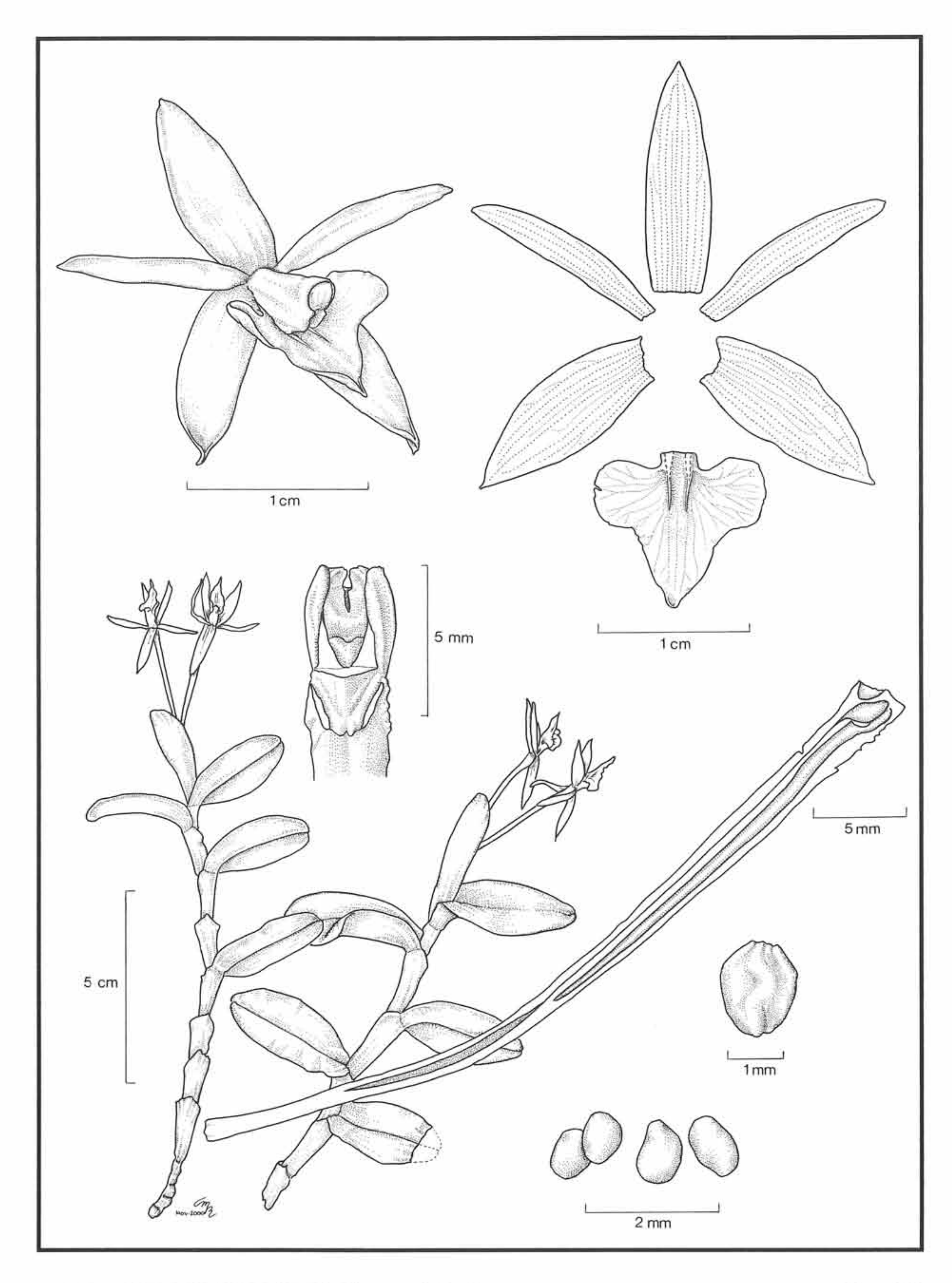
CONSERVATION STATUS: DD. Data deficient.

RECOGNITION: *Epidendrum pazii* belongs to the renilabium subgroup of the cernuum group and is recognized by the branching habit, wide leaves, proportionately 2:1, the racemose inflorescence, successive flowers, about half open at one time, creamy-green, pleasantly fragrant, the flowers opening from the base of the inflorescence towards the apex. *Epidendrum anderssonii* has fewer, simultaneous flowers, shorter calli, and somewhat narrower leaves; this species has been registered only from the eastern slope of the Andes from the Putumayo to Bolivia. *Epidendrum renilabium* Schltr. has green flowers on a long, sometimes branching inflorescence , the apical flowers opening first and then gradually those nearer to the base of the inflorescence; it is found on the western slopes of the Andes in Ecuador. *Epidendrum renilabioides* Hágsater & Dodson has longer, oblong leaves, smaller pale green flowers tinged with bronze on the outside, with no fragrance, sepals elliptic, shorter, petals obliquely rhomboid and the clinandrium reduced.

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ETYMOLOGY: In honor of Néstor Paz, from the Universidad del Valle, Cali, who participated in the field course of amphibians and reptiles and collected the type.

Authors: E. Hágsater **Illustrator: M. López R.** **Editors: E. Hágsater & L. Sánchez S.**
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EPIDENDRUM PHILOCREMNUM Hágsater & Dodson

Plate 470

EPIDENDRUM PHILOCREMNUM Hágsater et Dodson, *sp. nov.*

Type: ECUADOR: Zamora-Chinchipe: 24.3 km W of Zamora, 1750 m, 21 July 1971, ***B. MacBryde 634.*** Holotype: QCA! Isotype: GB! (illustration voucher).

Epidendro geminifloro Kunth affine sed labelli lobulis lateralibus suborbicularibus prominentibus.

Hierba litófita o terrestre, rastrera, de 14.5-20 cm de alto. **Raíces** escasas, de los entrenudos basales, delgadas, carnosas, blancas, 0.9-1.3 mm de grosor. **Tallos** sencillos, tipo caña, lateralmente aplanados, ancipitosos, ligeramente flexuosos, 6.7-15.5 x 0.21-0.60 cm. **Hojas** 3-7, distribuidas a lo largo de los dos tercios superiores de los tallos, semejantes entre sí, alternas; vaina infundibuliforme, finamente estriada cuando seca, 7-21 mm de largo; lámina ovada a angostamente elíptica, bilobada, subcoriácea, con una quilla dorsal, margen entero y ligeramente revoluto, 2.0-5.0 x 0.9-1.7 cm. **Espata** 1, conduplicada, semiobovada, redondeada, 2.5-3.6 x 0.8-1.0 cm. **Inflorescencia** apical, racemosa, biflora, erecta, 6-8 cm de largo; pedúnculo totalmente cubierto por la espata, terete, desprovisto de brácteas, 1.0 cm de largo. **Brácteas florales** mucho más cortas que el ovario, angostamente triangulares, acuminadas, ocultas generalmente por la espata, de 2-4 mm de largo. **Ovario** terete, delgado, no inflado, no ornamentado, la parte basal oculta por la espata, 20-43 mm de largo. **Flores** 2, simultáneas, no resupinadas, de color verde a amarillo naranja, los sépalos y pétalos en ocasiones teñidos de pardo púrpura, sin datos de fragancia. **Sépalos** libres, ápice agudo, margen extendido y entero, 9-nervados; el **dorsal** reflexo, angostamente elíptico, 13.5-15 x 3-4.1 mm; los **laterales** entreabiertos, elípticos, 12-14.5 x 4.5-5.4 mm. **Pétalos** extendidos, libres, oblongos, agudos, margen entero, 3-nervados, 12-14 x 2.3-2.5 mm. **Labelo** unido a la columna, trilobado, base ligeramente cordada, margen irregular, 10-10.5 x 10.5-11.3 mm; bicalloso, los callos muy delgados y bajos, paralelos, de la mitad del largo de los lóbulos laterales; disco desprovisto de carinas, liso; lóbulos laterales suborbiculares, 2.8-3.8 x 3.0-4.5 mm; lóbulo medio triangular, subagudo, 5.1-6.0 x 5.0-6.1 mm. **Columna** corta, recta, gruesa, 5 mm de largo. **Clinandrio** corto, entero. **Antera** elipsoidal, 4-locular. **Polinios** 4, ovoides, desiguales. **Rostelo** subapical, hendido. **Lóbulos laterales del estigma** prominentes, de la mitad de largo de la cavidad estigmática. **Nectario** penetrando ½ del ovario, no inflado, no ornamentado. **Cápsula** no vista.

Lithophytic or terrestrial, repent **herb. Roots** from the basal nodes, scarce, thin, fleshy. **Stems** simple, cane-like, laterally flattened, ancipitous, somewhat flexuous. **Leaves** 3-7, distributed throughout the upper two-thirds of the stems, similar; sheaths infundibuliform, minutely striated when dry; blade ovate to narrowly elliptic, bilobed, subcoriaceous. **Spathe** 1, conduplicate, semi-obovate, rounded. **Inflorescence** apical, racemose, peduncle completely covered by the spathe. **Floral bracts** much shorter than the ovary, narrowly triangular, acuminate. **Ovary** terete, thin. **Flowers** 2, simultaneous, non-resupinate, green, the sepals and petals sometimes tinged purple-brown. **Sepals** elliptic, acute, 9-veined. **Petals** oblong, acute, 3-veined. **Lip** three-lobed, base somewhat cordate, bicallose, the calli very thin and low, parallel, disc unornamented, lateral lobes suborbicular, midlobe triangular, subacute. **Column** short, straight, thick. **Clinandrium** short, entire. **Nectary** penetrating half the ovary, not inflated.

OTHER SPECIMENS: Azuay: Cola de San Pablo, *Dodson et al. 15494*, RPSC! **Zamora-Chinchipe:** Loja-Zamora km 40, 1680 m, *Dodson 13212*, MO! SEL! US! Loja-Zamora: 2200 m, *Dodson et al. 16110*, SEL! Zamora River, 1600 m, *Dodson 186*, SEL! Loja-Zamora, km 34, El Retorno, *Hágsater et al. 12341*, AMO!

DISTRIBUTION AND ECOLOGY: ECUADOR: From the eastern slopes of the Andes, on cliffs and steep roadsides, 1600-2200 m altitude. Flowering in July and September.

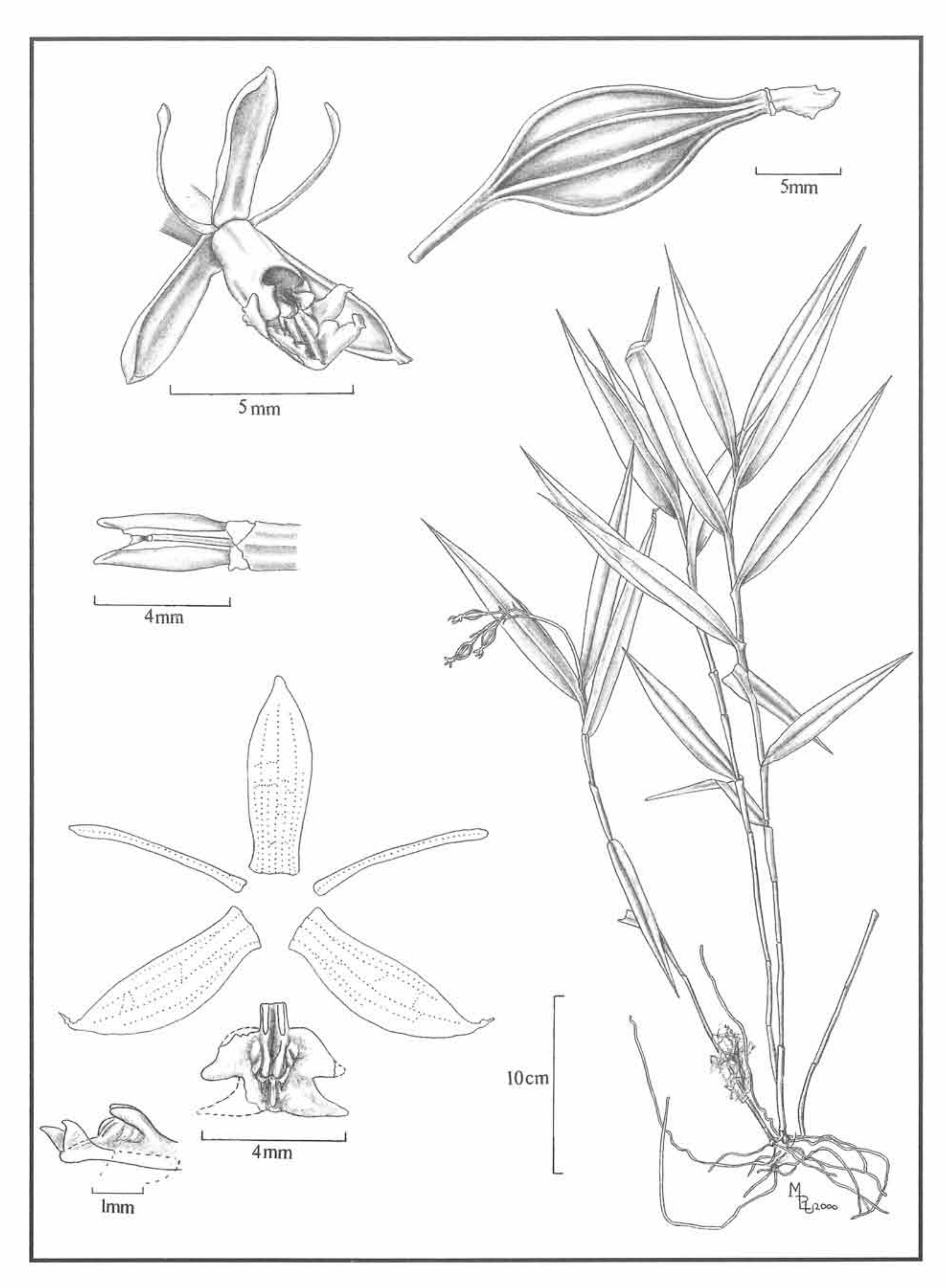
RECOGNITION: *Epidendrum philocremnum* belongs to the megalospathum group, geminiflorum subgroup, recognized by the prominent, rounded spathe, few, non-resupinate flowers, the lip non-excavate. The species is recognized by the two flowers, sepals 12-15 mm long, and prominent, suborbicular lateral lobes of the lip. *Epidendrum geminiflorum* Kunth has 2-4 larger flowers, sepals 15-19 mm long, acuminate sepals, petals and the lip with incipient, rounded lateral lobes. *Epidendrum stevensonii* Hágsater & Dodson has (5)8-10 simultaneous flowers, with 18 mm long sepals, a spade-like lip without lateral lobes and is always epiphytic. *Epidendrum rotundifolium* Hágsater & Dodson has suborbicular to elliptic leaves, sepals 15 mm long and very narrow petals, the lip is excavated, *Malaxis*-like; it is restricted to the lower mountains at the foot of the western Andes on the border between Ecuador and Peru. *Epidendrum cuencanum* Schltr. has a triangular-subcordate, acuminate lip, sepals 20 mm long, and petals linear, 1 mm wide. It is very similar to *Epidendrum cajamarcae* Schltr. ovary 4.5 cm long, leaves 5-6.5 x 2 cm, sepals lanceolate, obtuse, 18 mm long, petals lanceolate-ligulate, lip three lobed, base subcordate-rotund, 12 x 10 mm, lateral lobes semiquadrate, truncate, midlobe ovate-triangular, obtuse.

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CONSERVATION STATUS: DD. Data deficient.

ETYMOLOGY: From the Greek φιλο-, loving, and κρημνος, cliff, in reference to the preference of this species for rock faces and steep roadsides.

Authors: E. Hágsater & C. H. Dodson **Illustrator: M. López R.** **Editors: E. Hágsater & L. Sánchez S.**
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EPIDENDRUM PIRRENSE Hágsater

Plate 471

EPIDENDRUM PIRRENSE Hágsater, *sp. nov.*

Type: PANAMA: Darién: Top of ridge leading to Cerro Pirre. Area near Rancho Plástico, 1200-1400 m, 13 Nov 1977, ***J. P. Folsom & José Contrerra & Brijilio (of Piji Vasal) 6276.*** Holotype: MO! (illustration voucher).

Epidendro parvifloro Ruiz & Pavón affine sed habitu majore, inflorescentiae pedunculo elongato tenuique, floribus aliquantum majoribus discrepans.

Hierba epífita, de 38-40 cm de alto. **Raíces** basales, carnosas, delgadas, 0.6-1 mm de grosor. **Tallos** sencillos, tipo caña, teretes, rectos, 28-40 x 0.13-0.38 cm. **Hojas** 6-8, distribuidas en la parte media apical del tallo, alternas, lisas; vaina tubular, lisa, 10-32 x 1.4-4 mm; lámina articulada, lanceolada, acuminada, margen entero, lisa, 8-15.5 x 0.9–1.8 cm. **Espata** ausente. **Inflorescencia** apical, paniculada, arqueada, 9.5 cm de largo, pedúnculo delgado, lateralmente comprimido, 4.5 cm de largo, provisto de una bráctea en la primera rama, abrazadora, largamente acuminada, 1.9 cm de largo. **Bráctea floral** mucho más corta que el ovario, triangular, acuminada, 4-6 mm de largo. **Flores** 6, aparentemente simultáneas, resupinadas, sin datos de color ni fragancia. **Ovario** no ornamentado, 20-23 mm de largo. **Sépalos** extendidos, glabros, libres, elípticos, agudos, margen extendido y entero, 3-nervado, las nervaduras ramificadas dando la apariencia de ser 6 o 7 nervados; el **dorsal** apiculado, 5.5 x 1.7 mm; los **laterales** oblícuos, carinados dorsalmente, la carina erosa, 5.9 x 1.7 mm. **Pétalos** algo reflejos, libres, filiformes, redondeados, margen extendido y entero, 1-nervados, 5.1 x 0.2 mm. **Labelo** unido a la columna, trilobado, truncado en la base, tan ancho entre los lóbulos apicales como entre los laterales, 3.8 x 4.2 mm; bicalloso, los callos lateralmente aplanados, sobresaliendo de entre una estructura carnosa, proyectados hacia adelante hasta cerca del istmo; disco tricarinado, la carina central roma, desvaneciendose antes de llegar al seno apical; lóbulos laterales oblícuamente ovados, subagudos, margen entero, 1.3 x 1.2 mm; lóbulo medio fuertemente divaricado, los lobos triangulares, agudos, margen entero, 1.5 x 9.6 mm. **Columna** gruesa, recta, con un par de dientes apicales ascendentes, 4 mm de largo. **Clinandrio** reducido, entero. **Antera** no vista. **Polinios** no vistos. **Rostelo** hendido. **Lóbulos laterales del estigma** no vistos. **Nectario** no visto. **Cápsula** elíptica, 11-12 x 4.6-5.1 mm; pedicelo 5-5.8 mm de largo; cuello apical 3 mm de largo.

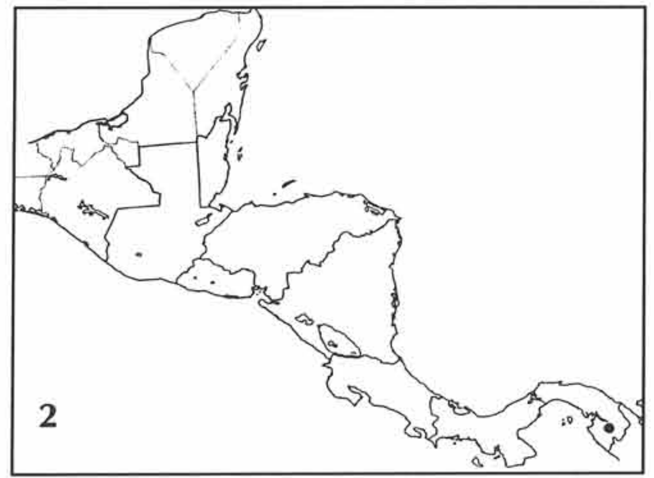
Epiphytic, caespitose **herb. Roots** thin. **Stems** simple, cane-like, terete. **Leaves** distributed along the upper half of the stem, blade lanceolate, acuminate. **Inflorescence** apical, paniculate, few-flowered, with a thin, laterally compressed peduncle, arching. **Floral bracts** much shorter than the ovary, triangular, acuminate. **Flowers** few, resupinate, apparently simultaneous, without data on color. **Sepals** elliptic, acute, 3-veined, the veins branching so as to appear 6-7 veined. **Petals** filiform, apex rounded, 1-veined. **Lip** united to the column, 3-lobed, base truncate, about as wide between the lateral lobes as between the apical lobes, bicallose, the calli large and projecting forward, disc 3-carinate; lateral lobes obliquely ovate, subacute, midlobe bifid, strongly divaricate, the lobes triangular, acute. **Column** straight, short, thick, with a pair of apical lateral teeth turned upwards. **Capsule** ellipsoid, with a thin peduncle and a short apical neck.

OTHER SPECIMENS: None seen.

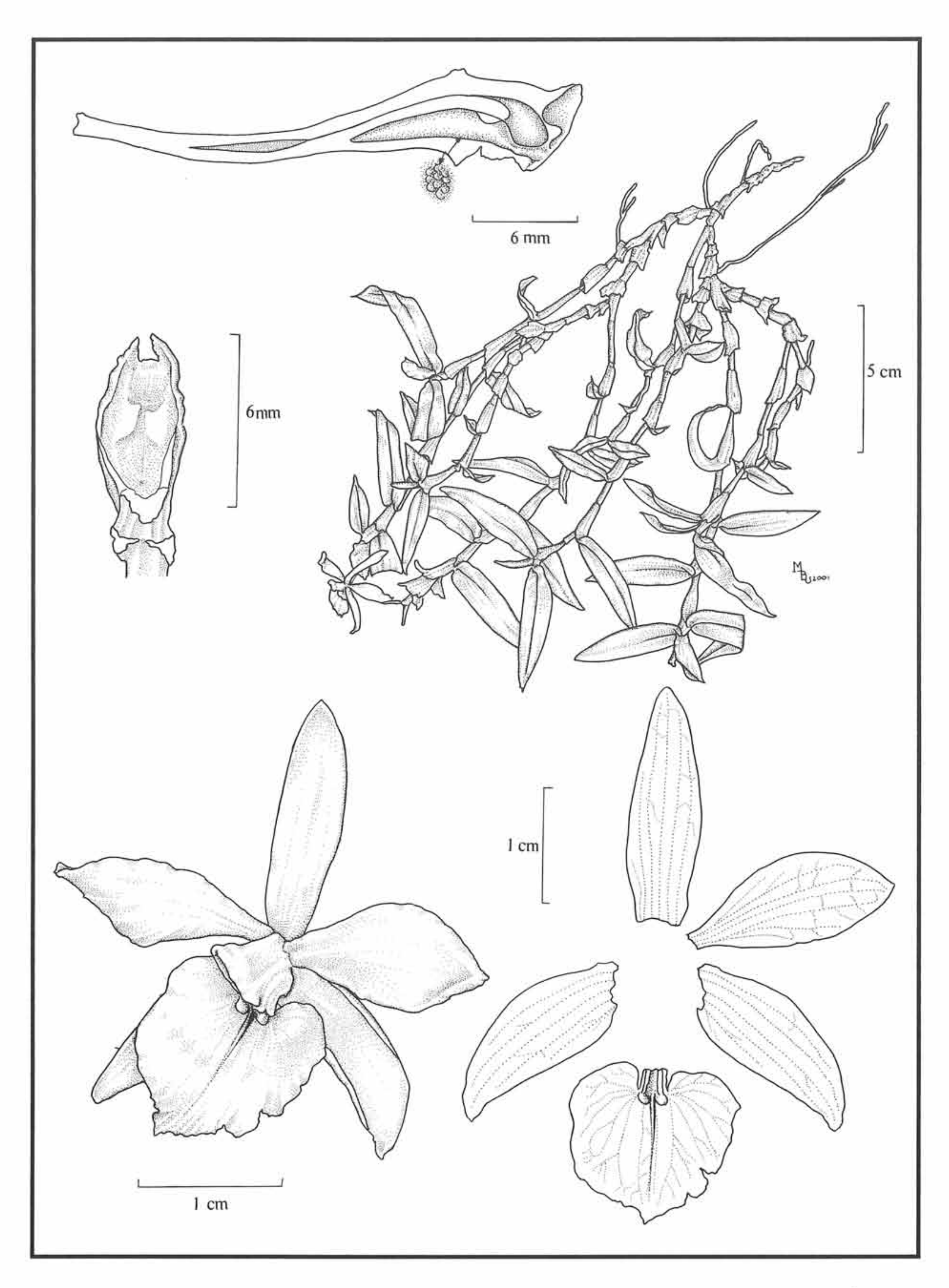
RECOGNITION: *Epidendrum pirrense* belongs to the paniculatum group which has caespitose plants, cane-like stems, apical inflorescence, the petals filiform and the lip mostly 4-lobed, pollinia unequal, bird-wing-type. This species has small flowers on an inflorescence with a long thin peduncle, the sepals 5-6 mm long. It is very similar to *E. parviflorum* which has smaller leaves, a shorter, thicker peduncle, very similar flowers. *Epidendrum poeppigii* Hágsater is also similar but has successive flowers, and the leaves about half as wide, the peduncle of the inflorescence thicker and shorter.

DISTRIBUION AND ECOLOGY: Known only from the type, on the border of Colombia and Panama, at about 1200-1400 m altitude. Fruiting in November.

ETYMOLOGY: In reference to the mountain where it has been found, the Cerro Pirre, at the northern end of the Serranía de Pirre, a small mountain range that runs across the border on the Pacific side of the isthmus.



Authors: E. Hágsater **Illustrator: M. López R.** **Editors: E. Hágsater & L. Sánchez S.**
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EPIDENDRUM PLATYPETALUM Hágsater

Plate 472

EPIDENDRUM PLATYPETALUM Hágsater, *sp. nov.*

Type: COLOMBIA: Antioquia: El Retiro, Hda. Normandía. Cordillera Central, 2500 m, 2-3 Dic. 1956, ***M. Ospina-Hernández 88.*** Holotype: AMES! (illustration voucher).

Epidendro stahlii Hágsater & Dodson similare sed habitu majore, petalis latioribus ellipticis acutis, columna breviore, nectario 1/4 partem ovarii penetranti, ovario sine carinis affixis abhorrens.

Hierba epífita o litófita, subcespitosa, colgante, hasta de 16 cm de alto. **Raíces** escasas, de los entrenudos basales, delgadas, carnosas, blancas, 0.5-1 mm de grosor. **Tallos** sencillos, tipo caña, lateralmente aplanados, 7-16 x 0.14-0.40 cm. **Hojas** 5-7, distribuidas a lo largo de los tallos, desiguales, progresivamente más grandes, alternas, oblicuas; vaina infundibuliforme, finamente estriada cuando seca, 11-14 mm de largo; lámina angostamente ovada, aguda, con una quilla dorsal, margen irregular y ligeramente revoluto, carnosa subcoriácea, 0.5-4.6 x 0.3-1.1 cm. **Espata** 1-2, conduplicada, semiovada, redondeada, apiculada, 10-19 x 6.8-7.0 mm. **Inflorescencia** apical, racemosa, biflora, erecta, 2.7 cm de largo; pedúnculo totalmente cubierto por la espata, terete, desprovisto de brácteas, 0.5 cm de largo. **Brácteas florales** mucho más cortas que el ovario, triangulares, acuminadas, de 1 mm de largo. **Ovario** terete, delgado, dilatado justo detrás del perianto, no ornamentado, 21 mm de largo. **Flores** 2, simultáneas, no resupinadas, sépalos y pétalos verdoso rojizos, hialinos, labelo verde, denso; sin datos de fragancia. **Sépalos** extendidos, libres, ápice agudo, margen extendido y entero, 5-nervados; el **dorsal** lanceolado, 20 x 6.2 mm; los **laterales** elípticos, falcados, 18 x 7 mm. **Pétalos** extendidos, libres, elípticos, obtusos, margen extendido y entero, 3-nervados, las nervaduras laterales ramificadas desde la base, dando la apariencia de ser 5-nervados, 18.5 x 7.7 mm. **Labelo** unido a la columna, cordiforme, apiculado, margen entero, 14 x 14 mm; bicalloso, los callos globoso alargados, pequeños, con una quilla roma intermedia que llega hasta la mitad del labelo. **Columna** corta, recta, gruesa, 6 mm de largo. **Clinandrio** prominente, sobrepasando ligeramente el cuerpo de la columna, margen entero, carnoso. **Antera** no vista. **Polinios** no vistos. **Rostelo** apical, hendido. **Lóbulos laterales del estigma** de 1/3 de largo de la cavidad estigmática. **Nectario** penetrando ¼ del ovario, no inflado, papiloso. **Cápsula** no vista.

Epiphytic and lithophytic in moss, pendulous, subcaespitose **herb. Roots** scarce, from the base of the stems, thin, fleshy. **Stems** simple, cane-like, laterally compressed. **Leaves** distributed throughout the stems, unequal, progressively larger, oblique; sheath infundibuliform; blade narrowly ovate, acute, oblique, fleshy-subcoriaceous. **Spathe** 1-2, conduplicate, semiovate, rounded, apiculate, **Inflorescence** apical, racemose, erect. **Floral bracts** much shorter than the ovary, triangular, acuminate. **Ovary** terete, thin, dilated towards the apex. **Flowers** 2, simultaneous, non-resupinate, sepals and petals reddish green, hyaline, lip green, fleshy. **Sepals** spreading, free, 5-veined, dorsal lanceolate, laterals elliptic, falcate. **Petals** spreading, elliptic, wide, obtuse, 3-veined, the lateral veins branching from the base so as to appear 5-veined. **Lip** cordiform, apiculate, bicallose, the calli small, globose, elongate, with a low rounded keel in the middle. **Column** short, straight, thick. **Clinandrium** prominent, slightly longer than the body, entire, fleshy. **Nectary** penetrating one-fourth of the ovary, not inflated.

OTHER SPECIMENS: None seen.

OTHER RECORDS: COLOMBIA: **Antioquia:** without locality, hort. Medellín, *Oscar Duque 1057*, photographs, AMO!

DISTRIBUTION AND ECOLOGY: Colombia, known only from the type locality, above Medellín, at 2500 m altitude. Flowering and fruiting in December.

RECOGNITION: *Epidendrum platypetalum* Hágsater belongs to the megalospathum group, recognized by the prominent spathe, few, resupinate flowers, the column united to the lip. It is recognized by the very wide petals, small globose calli, cordiform lip with small calli and a low keel, and short column with a fleshy, entire clinandrium. *Epidendrum tigriphyllum* Hágsater, from the same area, has larger flowers (sepals 22-23 mm long), a fleshy, 4-lobed callus, and narrow, ligulate petals. *Epidendrum posadarum* Hágsater, also from the region above Medellín, has smaller flowers (sepals 10-12 mm long) with a deeply cordiform lip and a large fleshy callus, the petals linear. *Epidendrum stahlii* has a smaller plant habit, proportionately larger flowers, narrower petals, a longer column. *Epidendrum miradoranum* Dodson & Bennett from Peru is terrestrial and erect, has larger flowers, (sepals 23-27 mm long), and oblanceolate petals. *Epidendrum calacaliënse* Hágsater & Dodson, from Western Ecuador, epiphytic and pendent, has a reniform lip, with proportionately larger calli and a prominent keel on the lip, and linear, acute petals.



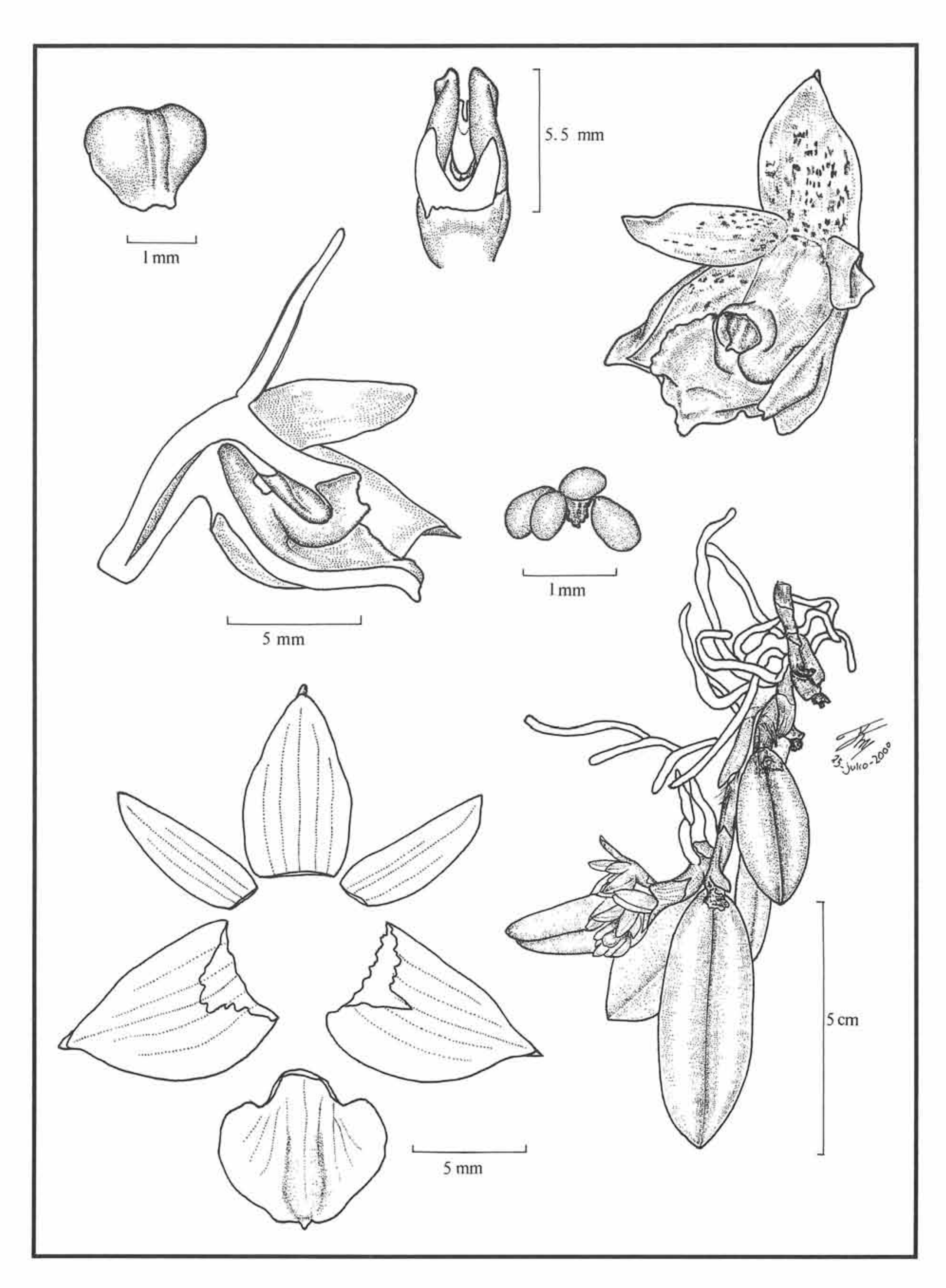
NOTE: One of the photographs of *Duque 1057* shows two reduced additional pollinia at the opposite side of the caudicles.

CONSERVATION STATUS: DD. Data deficient.

ETYMOLOGY: From the Greek πλατυς, wide, and πεταλον, petal, in reference to the wide petals which distinguish this species from similar species.

Authors: E. Hágsater **Illustrator: M. López R.** **Editors: E. Hágsater & L. Sánchez S.**

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EPIDENDRUM PLATYPHYLLOSERPENS Hágsater

Plate 473

EPIDENDRUM PLATYPHYLLOSERPENS Hágsater, *sp. nov.*

Type: PERU: Amazonas: Chachapoyas, Levanto, Hort. Ecuagenera, Cuenca, Ecuador, 1800-2200 m, received 8 Sept. 1999, pressed 12 Aug. 2000, ***J. Portilla sub E. Hágsater 12259.*** Holotype: AMO! (flowers in spirit, illustration voucher).

Epidendro carmelensi Hágsater & Dodson simile sed foliis latioribus ellipticis, floribus numerosioribus successivis leviter minoribus, petalis trinervatis differt.

Hierba epífita, colgante, simpódica, de 10 cm de alto. **Raíces** basales, delgadas, carnosas, blancas, 1-2 mm de grosor. **Tallos** engrosados formando un seudobulbo pequeño, heteroblástico, el nuevo seudobulbo originándose de la parte media basal del anterior 1.3-1.7 x 0.4-0.5 cm; cubiertos totalmente por 2 o 3 vainas generalmente persistentes, estriadas, 0.5-0.8 x 0.4-0.5 cm. **Hojas** 1, en el ápice del seudobulbo; lámina oblongo elíptica, aguda, margen entero, coriácea, finamente rugosa, 3.2-4.7 x 1.7-2.2 cm. **Espata** ausente. **Inflorescencia** apical, florece una sola vez, racemosa, sésil, 13 mm de largo. **Brácteas florales** de la mitad del largo del ovario, triangulares, acuminadas, 6 mm de largo. **Ovario** grueso, terete, no inflado, no ornamentado, 10 mm de largo. **Flores** 9, no resupinadas, sucesivas, color pardo rojizo, fragancia suave, herbácea. **Sépalos** extendidos, ovados, agudos, con una quilla dorsal prominente en el ápice, margen extendido y entero, carnosos, 5-nervados, el **dorsal** 8.5 x 4 mm; los **laterales** oblicuos, connados a la columna en su parte media basal, 8.5 x 5.2 mm. **Pétalos** extendidos, libres, angostamente ovados, agudos, margen extendido y entero, 3-nervados, 7 x 2 mm. **Labelo** unido a la columna, cordiforme, apiculado, ligeramente cóncavo, 6 x 7 mm; ecalloso, disco unicarinado, la carina prominente, alargada hasta el apículo. **Columna** corta, gruesa, recta, 5.5 mm de largo, formando un ángulo recto con el ovario. **Clinandrio** reducido, entero. **Antera** ovoide, provista de una quilla central que se desvanece hacia el seno apical, 4-locular. **Polinios** 4, ovoides, subiguales; caudículas suaves y granulosas, más cortas que los polinios, viscidio semilíquido. **Rostelo** subapical, hendido. **Lóbulos laterales del estigma** pequeños, de ¼ del largo de la cavidad estigmática. **Nectario** sin penetrar el perianto, ancho, no ornamentado. **Cápsula** no vista.

Epiphytic, pendent, sympodial **herb. Stems** short, forming a narrow heteroblastic pseudobulb, covered by several persistent, striated sheaths. **Leaves** solitary, apical, oblong-elliptic, acute, coriaceous. **Inflorescence** apical, racemose, sessile. **Ovary** thick, terete. **Flowers** 9, successive, non-resupinate, reddish brown, fragrance herbaceous. **Sepals** ovate, acute, with a prominent dorsal keel, 5-veined. **Petals** narrowly ovate, acute, margin entire, 3-veined. **Lip** united to the column, cordiform, apiculate, somewhat concave, ecallose, unicarinate. **Column** short, thick, straight, at right angles to the ovary. **Clinandrium** reduced, entire. **Nectary** not penetrating the ovary.

OTHER SPECIMENS: None seen.

DISTRIBUTION AND ECOLOGY: Known only from the type locality, in northern Peru on the mountains east of the Marañón river, at around 1800-2200 m altitude. Flowering July through September.

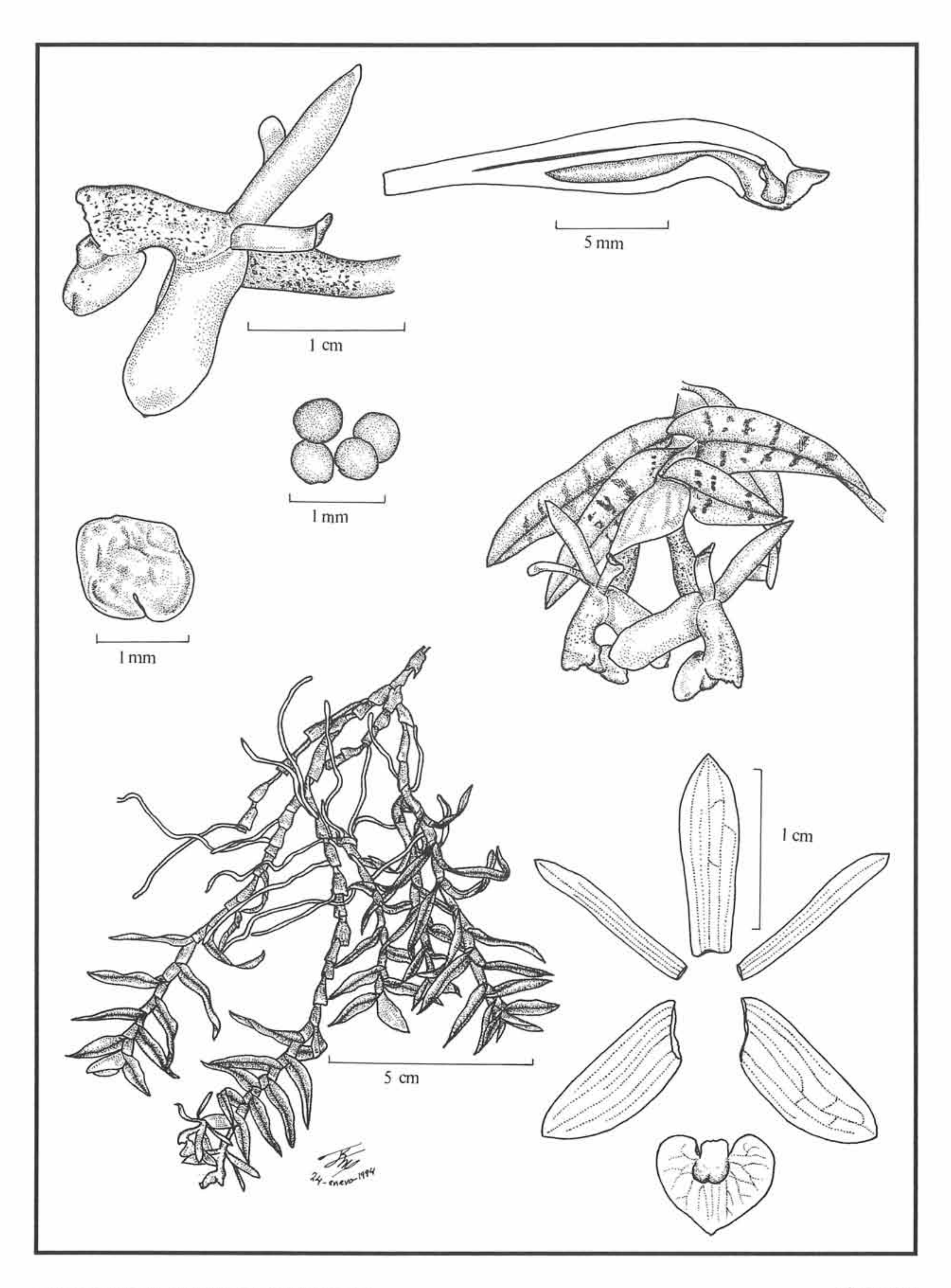
RECOGNITION: *Epidendrum platyphylloserpens* belongs to the garayi subgroup of the serpens group and is recognized by the pendent habit, one-leafed, short pseudobulbs, the wide, elliptic, coriaceous leaf, sessile, racemose inflorescence, the reddish brown, successive, non-resupinate flowers. It resembles *E. carmelense* which has narrower leaves (5-10 mm wide) and slightly larger, greenish to ochre flowers, the column dotted with red. *Epidendrum garayi* Løjtnant is very similar to the latter, but the sheaths of the pseudobulbs bear leaves identical to the apical leaf. *Epidendrum ilinizae* Hágsater & Dodson has similar leaves, but the habit is more elongate and the flowers are red, solitary, with the lip deeply cordate and margin finely erose.



CONSERVATION STATUS: DD. Data deficient.

ETYMOLOGY: From the Greek πλατυσ wide, φυλλον leafed, and the Latin *serpens* creeping in reference to the *serpens* group, and the wide leaves that distingu ish this species from *E. carmelense.*

Authors: E. Hágsater **Illustrator: R. Jiménez M.** **Editors: E. Hágsater & L. Sánchez S.**
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EPIDENDRUM POSADARUM Hágsater

Plate 474

EPIDENDRUM POSADARUM Hágsater, *sp. nov.*

Type: COLOMBIA: Antioquia: Mpio. Jardín, carretera al Alto de Ventanas, 2600 m, col. July 1983, J. Posada, L. de Posada et al., cult. Colomborquídeas, pressed 15 Nov. 1988, ***J. M. Munera & R. Escobar 329.*** Holotype: COL! (illustration voucher). Isotype: AMO!

Epidendro stanhopeano Kränzlin similare sed floribus minoribus, labello cordiformi cum margine integro.

Hierba epífita colgante. **Raíces** filiformes, basales, ca 0.3-0.5 mm de grosor. **Tallos** de cerca de la base de los tallos anteriores; lateralmente comprimidos, 6-11.5 x 0.1-0.3 cm, cubierto por vainas foliares ancipitosas, hasta de 7 mm de largo. **Hojas** distribuidas a lo largo de todo el tallo, equidistantes, articuladas, presentadas en el mismo plano del tallo, lámina articulada, angostamente lanceolada, aguda, suculenta, de color verde grisáceo, con barras transversales de puntos morados o rojo-violeta opaco, 1.5-3.0 x 0.3-0.8 cm. **Espata** corta, semiovada, obtusa a acuminada, 8-18.5 x 3.0-6.7 mm. **Inflorescencia** apical, colgante, corta; pedúnculo ocasionalmente provisto de una bráctea apical semejante a la espata, 7.5 mm de largo. **Brácteas** mucho más cortas que el ovario y totalmente ocultas dentro de la espata. **Flores** 2, simultáneas, resupinadas, de color verde claro en ocasiones con puntos rojo violetas en el ápice de los segmentos florales, columna y ovario punteados de morado. **Ovario** terete, inflado ventralmente en la mitad apical, 11 mm de largo. **Sépalo dorsal** linear obovado, subagudo, 3-5-nervado, extendido, 10-12 x 4 mm. **Sépalos laterales** angostamente ovados arqueados, 4-6-nervados, 12 x 4.5 mm. **Pétalos** lineares, 3-nervados, 11-13 x 1-2 mm. **Labelo** unido a la columna, carnoso, cordiforme, obtuso, con un callo carnoso en la base, algo biglobular, 4.5-6 x 5-8 mm. **Columna** arqueada, 8 mm de largo incluyendo el clinandrio. **Clinandrio** prominente, sobrepasando el cuerpo de la columna, margen eroso (en vivo se observa recto, en seco en forma de embudo). **Antera** 4-locular, oblonga, plana en la parte frontal. **Polinios** 4, lenticulares, lateralmente comprimidos, subiguales; caudículas suaves y granulosas; viscidio semilíquido. **Rostelo** subapical, hendido. **Lóbulos laterales del estigma** pequeños, de una ¼ parte del largo del estigma. **Nectario** prominente, penetrando 1/2 del ovario, dilatado hacia su parte media, no ornamentado. **Cápsula** no vista.

Epiphytic, pendent **herb. Stems** produced from near the base of the previous stem, laterally compressed, completely covered by evanescent, imbricating, foliaceous sheaths. **Leaves** articulate, narrowly lanceolate, acute, succulent, grayish-green, transversely barred with purple. **Spathe** semiovate, obtuse, acuminate. **Inflorescence** apical, short, hanging, peduncle sometimes with an apical bract like the spathe. **Flowers** 2, simultaneous, light green, the ovary and column dotted with purple. **Ovary** somewhat inflated in the apical half. **Sepals** narrowly obovate to ovate, acute, 5-6-veined. **Petals** linear, 3-veined. **Lip** cordiform; with a large basal biglobose callus. **Column** arched. **Clinandrium** prominent, surpassing the body of the column, erose. **Anther** 4-celled. **Pollinia** 4, obovoid, laterally compressed, with two pairs of granular caudicles, viscidium semi-liquid. **Rostellum** subapical, slit. **Nectary** penetrating 1/2 the ovary.

OTHER SPECIMENS: COLOMBIA: Antioquia: La Unión: El Chuscal, *Dodson, Escobar & Valencia 15283*, RPSC! La Unión, Alto El Chuzcal, *Escobar & Valencia 2550*, JAUM! SEL! La Ceja: El Tambor, *P. Ortiz Valdivieso 533*, HPUJ! **Chocó:** San José del Palmar: Cerro del Torrá, 2700-2800 m, *P.A. Silverstone-Sopkin 4612*, CUVC! Ibid. *4852*, CUVC!

OTHER RECORDS: COLOMBIA: Antioquia: *G. Escobar 577*, slides, AMO! La Ceja: El Tambor, *P. Ortiz Valdivieso 533*, illustration, HPUJ! slide, xerox AMO!

DISTRIBUTION AND ECOLOGY: Endemic to Colombia, from the highlands SSE of Medellín, and the Cerro del Torrá, at about 2600-2800 m altitude. Elfin forest. Flowering in May, August and September.



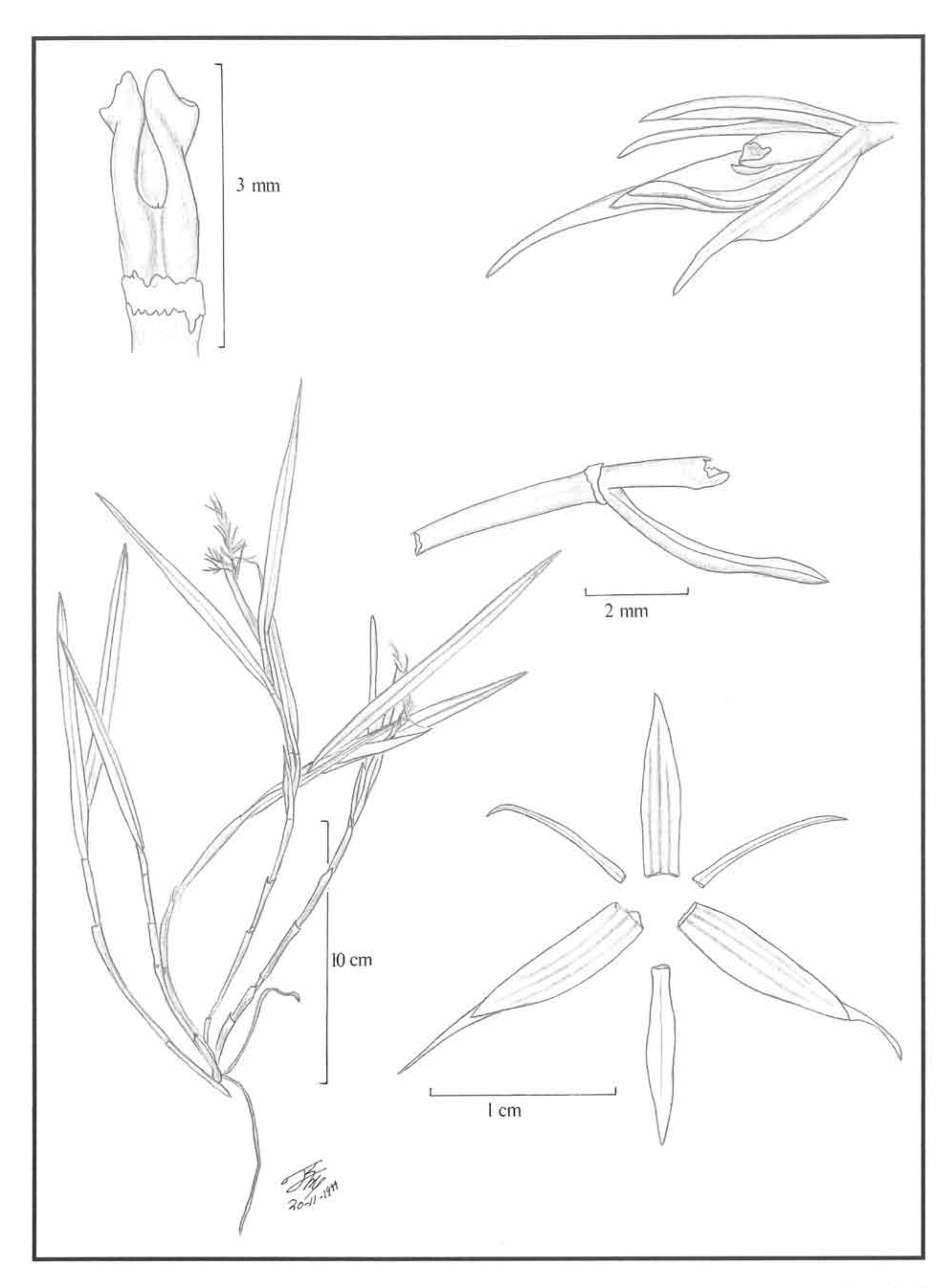
RECOGNITION: *Epidendrum posadarum* belongs to the megalospathum group, recognized by the prominent spathe, few, resupinate flowers, the column united to the lip. It is recognized by the grayish-green , pendant plants with purple bars across the leaves, semiovate spathe, grayish-green flowers, the column and ovary dotted with purple, lip cordiform with entire margin, and linear, 3-veined petals. *Epidendrum calacaliënse* Hágsater & Dodson has yellow flowers, a reniform, bicallose lip and the nectary does not penetrate the ovary which is therefore not swollen. *Epidendrum escobarianum* Garay has larger flowers, and a glossy, deep red acuminate lip. *Epidendrum stanhopeanum* has somewhat larger flowers, the sepals 13 x 5 mm and the reniform lip 10 x 15 mm; it was collected around Ocaña in NE Colombia (no specimen has been found, the type was apparently destroyed). *Epidendrum platypetalum* Hágsater has very wide petals (18.5 x 7.7. mm) and a short column and the lip has two small, globose calli and a ventral low keel.

CONSERVATION STATUS: DD (Data deficient).

ETYMOLOGY: In honor of the Posada family who through Colomborquídeas have made much material available to orchid students. They collected and cultivated the plant from which the type was prepared and photographed.

REFERENCES: Orquídeas Nativas de Colombia 2: 170, pl. 181.

Authors: E. Hágsater **Illustrator: R. Jiménez M.** **Editors: E. Hágsater & L. Sánchez S.**
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EPIDENDRUM PTEROSTELE Hágsater & Dodson

Plate 475

EPIDENDRUM PTEROSTELE Hágsater et Dodson, *sp. nov.*

Type: ECUADOR: Sucumbios: Tulcán-La Bonita km 65.4, 1990 m, 8 July 1990, ***C. H. Dodson, E. Hágsater, D. Rubio & N. Revelo 18476a.*** Holotype: RPSC! (illustration voucher).

Epidendro dialychilo Hágsater & Dodson affine sed floribus angustioribus et longioribus successivis, apicalibus praecocioribus, petalis acuminatis, cavitate stigmatica columnae venteris dimidium occupanti, columna infra sulcata, clinandrio prominenti eroso duas alas in columnae apice formanti differt.

Hierba epífita, cespitosa, de 20-30 cm de alto. **Raíces** basales, filiformes, de 0.7-1 mm de grosor. **Tallos** delgados, tipo caña, sencillos, teretes, formados de 5-7 entrenudos, de 9-16 x 0.1-0.2 cm. **Hojas** 3-4, articuladas, distribuidas en la mitad apical del tallo; vainas tubulares, estriadas cuando seca, las inferiores no foliosas, de 1-3.5 cm de largo; lámina linear lanceolada, acuminada, con una quilla por la parte dorsal, desiguales, progresivamente más largas, 2.5-13 x 0.2-0.7 cm. **Espata** 1, angosta, acuminada, más larga que el pedúnculo y ocultándolo, 4.7-5 x 0.3-0.4 cm. **Inflorescencia** apical, del crecimiento maduro, racemosa, erecto-arqueada, raquis de 4 cm de largo, pedúnculo de 3 cm de largo. **Brácteas florales** más largas que las flores, muy angostas, linear-lanceoladas, acuminadas, 0.7-1.4 cm. **Ovario** terete, algo más grueso en los 2/3 apicales, de 3.5-5.3 mm de largo. **Flores** 18-22, sucesivas, abriendo desde el ápice del racimo hacia atrás, rosado-verdosas. **Sépalos** entreabiertos, oblongo-lanceoados, las nervaduras claramente realzadas en seco, 3 nervados, el **dorsal** acuminado, 10 x 2.3 mm; los **laterales** largamente acuminados, aristados, con una quilla prominente en la parte dorsal que se prolonga más allá del ápice, 14-15 x 2.5 mm. **Pétalos** entreabiertos, linear-filiformes, algo más anchos en la base, arqueados, acuminados, 1-nervados, 9.3 x 0.6 mm. **Labelo** libre de la columna, entero, angostamente elíptico, agudo, en posición natural ligeramente incurvado (arqueado), la base insertada en ángulo agudo a la base de la columna, 9.7 x 1.6 mm; ecalloso. **Columna** corta, delgada, de 3 mm de largo, con dos procesos (alas) prominentes en la parte apical producidos por una prolongación basal del clinandrio, con un canal o surco en la parte ventral a lo largo de la parte media, llegando hasta la cavidad estigmática que ocupa la mitad del vientre. **Clinandrio** corto, margen irregular. **Rostelo** apical, hendido. **Lóbulos** laterales del estigma, no evidentes. **Nectario** ausente. **Antera** no vista. **Polinios** no vistos. **Cápsula** no vista.

Epiphytic, caespitose **herb. Stems** cane-like, simple, terete. **Leaves** 3-4, distributed along the apical half of the stem, linear-lanceolate. **Spathes** 1, narrow, acuminate, covering the peduncle. **Inflorescence** racemose, erect-arching, shorter than the leaves. **Floral bracts** up to twice as long as the ovary, very narrow. **Ovary** very short. **Flowers** successive, the apical flowers opening first, pink-green. **Sepals** oblong-lanceolate, 3-veined; the **dorsal** acuminate; the **laterals** long aristate, acuminate. **Petals** linear-filiform, acuminate, 1-veined. **Lip** free from the column, entire, narrowly elliptic, acute, incurved, inserted at an acute angle at the base of the column, ecallose. **Column** short, thin, terminating in a pair of wings produced by the enlarged base of the clinandrium which is short and irregular; ventrally the stigmatic surface occupies half the body, the basal half of the body sulcate. **Nectary** lacking.

OTHER SPECIMENS: None seen.

DISTRIBUTION AND ECOLOGY: Known only from the type locality, on the eastern slope of the Andes of northern Ecuador, near the border with Colombia, at around 2000 m, in wet montane forest. Flowering in July.

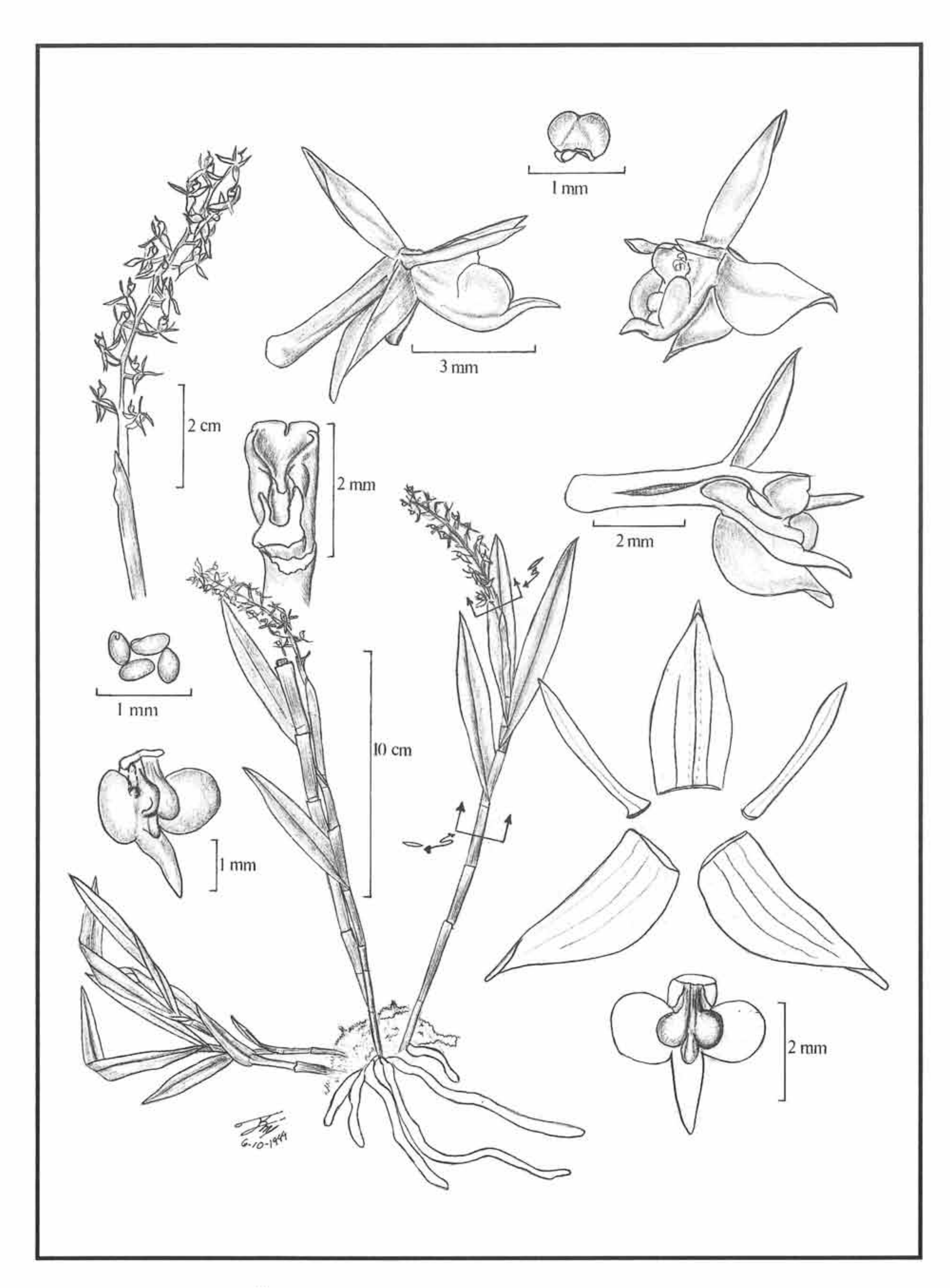
RECOGNITION: *Epidendrum pterostele* belongs to the alpicolum group, dialychilum subgroup, and is recognized by the free, narrowly elliptic, acute lip, the filiform petals, and the short column with a prominent, irregular clinandrium prolonged on both sides at the base into wings; the stigmatic cavity occupies the apical half of the ventral surface, the basal half prominently sulcate. The species is closely related to and simpatric with *E. dialychilum* in which the stigmatic cavity occupies nearly the whole underside of the column, the column is widened towards the middle. *Epidendrum rhopalostele* Hágsater & Dodson has a thin, club-shaped column, with the stigmatic cavity occupying about 1/3 of the underside and a reduced clinandrium. *Epidendrum dialyrhombicum* Hágsater & Dodson has smaller flowers, the sepals 3-4 mm long, the lip free from the column, rhombic with a long narrow claw perpendicular to the base of the lip and then turning up and parallel to it, the column with the rostellum projecting beyond the rest of the body.

CONSERVATION STATUS: DD. Data deficient.

ETYMOLOGY: from the Greek πτερον, wing, and στηλ, column, in reference to the winged appearance of the apex of the column, which distinguishes this species from other closely related ones.

4

Authors: E. Hágsater & C. H. Dodson **Illustrator: R. Jiménez M.** **Editors: E. Hágsater & L. Sánchez S.**
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EPIDENDRUM PUCUNOËNSE Hágsater & Dodson

Plate 476

EPIDENDRUM PUCUNOËNSE Hágsater et Dodson, *sp. nov.*

Type: ECUADOR: Napo: Entre el Río Pucuno y el Río Guamaní, carretera Hollín-Loreto-Coca, 00° 46'S 77° 26'W, 1100-1200 m, 11 Dec. 1987, ***Carlos E. Cerón M. 2884.*** Holotype: QCNE! Isotype: RPSC! (illustration voucher).

Epidendro zosterifolio Lehmann & Kränzlin affine sed foliis ellipticis acutis, floribus minoribus, labelli lobulis lateralibus grandibus orbicularibus ad marginem integris, clinandrio grandi recto emarginato ad marginem integro differens.

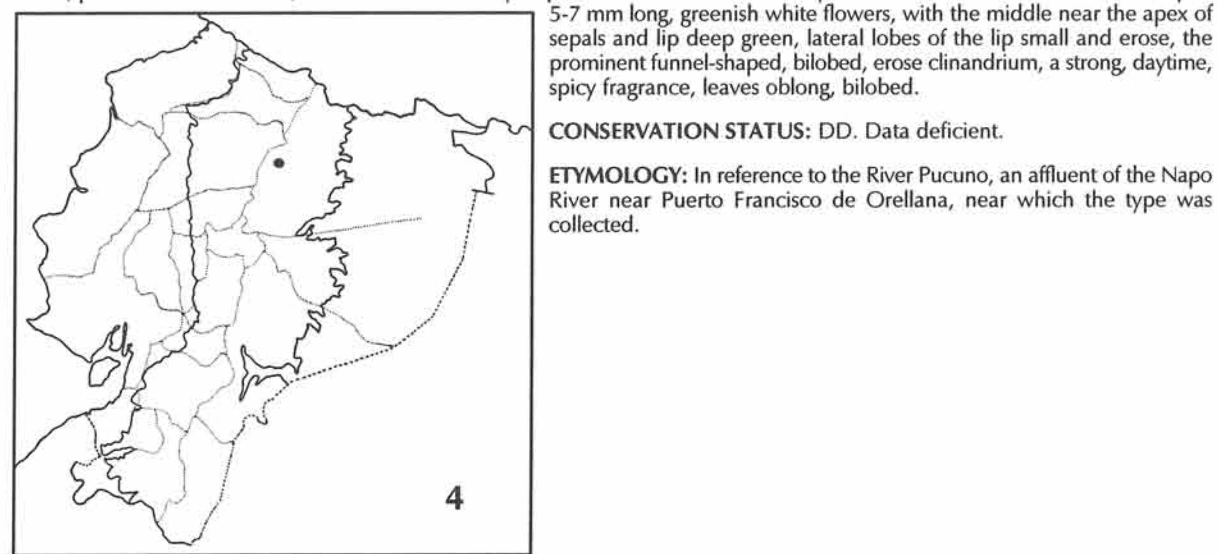
Hierba epífita, cespitosa, de 17-32 cm de alto. **Rizoma** corto. **Raíces** basales, gruesas, carnosas, de 1-2 mm de grosor. **Tallos** tipo caña, ligeramente flexuosos, ancipitosos, 8-21 x 0.2-0.6 cm. **Hojas** 3-6, articuladas, distribuidas a lo largo del tallo; vainas ancipitosas, lisas, la inferior no foliosa, 10-25 mm de largo; lámina angostamente elíptica, ápice agudo, gramínea, con una quilla dorsal prominente, desiguales, progresivamente más largas, 40-120 x 4-9 mm. **Espatas** 1-2, de lados casi paralelos, agudas, cubriendo el pedúnculo, 25-45 x 3-4 mm. **Inflorescencia** apical, del crecimiento maduro, racemosa, arqueada, cola de zorra pauciflora, con 12-20 flores, racimo de 5-6 x 1.1-1.5 cm, pedúnculo de 3.5-5.0 cm de largo. **Brácteas florales** muy delgadas, linear triangulares, acuminadas, del mismo hasta poco más largas que el ovario, 2-8 x 0.5 mm. **Ovario** terete, 2-4 mm de largo. **Flores** pequeñas, el labelo siempre orientado hacia el raquis, simultaneas, color amarillo crema o blanco, fragancia no registrada. **Sépalos** reflexos, ovados, engrosados cerca del ápice, 3-nervados, la nervadura central prominente en seco; el **dorsal** agudo, 3.8-4.3 x 1.0-1.8 mm; los **laterales** acuminados, con una quilla prominente dorsal apical, 4.0-4.6 x 1.6-1.9 mm. **Pétalos** entreabiertos, lineares, algo más estrechos cerca de la base, agudos, 1-nervados, nervadura prominente en seco, 3.4-3.8 x 0.3-0.6 mm. **Labelo** unido a la columna, trilobado, de 2.8-3.2 x 2.8-3.1 mm; bicalloso, callos lateralmente comprimidos, con una quilla corta entre los callos; lóbulos laterales orbiculares, margen entero, 1.2-1.6 de diámetro; lóbulo medio triangular, agudo, 1.4-1.8 x 0.6-0.7 mm. **Columna** corta, gruesa, 1.8-2.0 mm de largo incluyendo el clinandrio. **Clinandrio** prominente, recto, ocupando la mitad del largo de la columna, en forma de embudo, emarginado, entero. **Antera** reniforme, roma al frente, 4- locular. **Polinios** 4, ovoides, lateralmente comprimidos, subiguales. **Rostelo** a la mitad de la columna incluyendo el clinandrio, hendido. **Lóbulos laterales del estigma** pequeños. **Nectario** poco profundo penetrando ligeramente detrás del perianto, fondo amplio, liso interiormente. **Cápsula** ovoidea con un pedicelo delgado corto, 7-8 x 4-5 mm, pedicelo 1.5 mm, cuello apical corto; al abrir subesférica.

Epiphytic, caespitose **herb. Roots** basal, fleshy. **Stems** simple, cane-like, flexuous, ancipitose. **Leaves** 3-6, narrowly elliptic, acuminate, grassy. **Spathes** 1-2, nearly parallel-sided, acute, covering the peduncle. **Inflorescence** apical, racemose, arching, fox-tail, lax-flowered. **Floral bracts** as long as to somewhat longer than the ovary, acuminate. **Ovary** terete. **Flowers** simultaneous, the lip always oriented towards the rachis, creamy yellow or white. **Sepals** reflexed, ovate, acute to acuminate, thickened towards the apex, 3-veined, the mid-vein prominent when dry, laterals somewhat longer. **Petals** partly spreading, linear, somewhat narrowed near the base, acute, 1-veined, the vein prominent when dry. **Lip** united to the column, 3-lobed; bicallose, with a short keel in the middle; lateral lobes prominent, orbicular, margin entire, midlobe triangular, about 2 1/2 times longer than wide. **Column** short, thick, straight. **Clinandrium** prominent, funnel-shaped, emarginate, margin entire. **Rostellum** at the middle of the column including the clinandrium, slit. **Nectary** penetrating slightly behind the perianth, wide, unornamented.

OTHER SPECIMENS: None seen.

DISTRIBUTION AND ECOLOGY: Eastern slopes of the Andes in central Ecuador, 1100 m altitude. In pluvial premontane forest. Flowering in December.

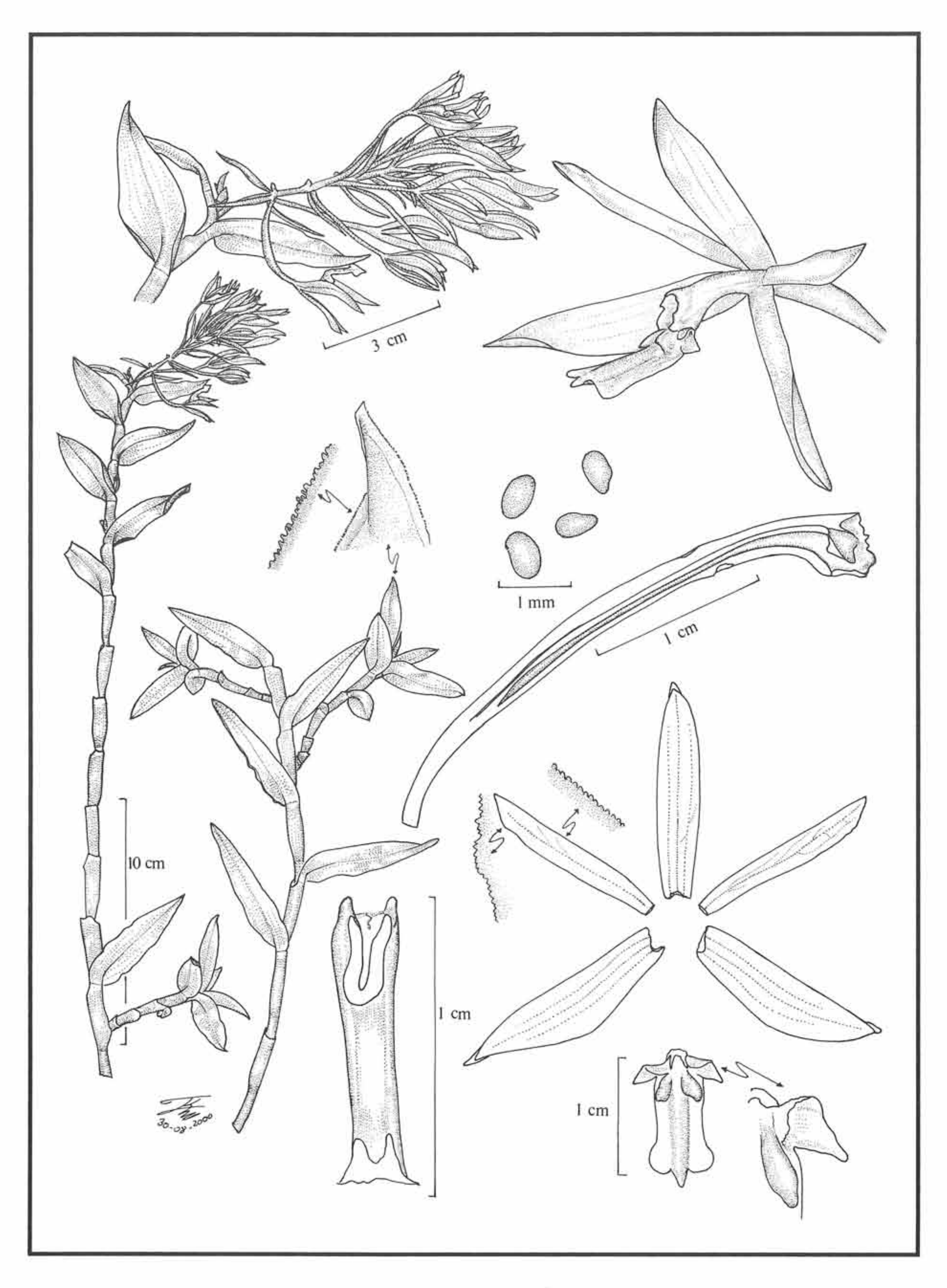
RECOGNITION: *Epidendrum pucunoënse* belongs to the alpicolum group and is recognized by the small flowers, the sepals prominently midveined when dry, the large orbicular lateral lobes of the lip, larger in surface than the midlobe, and the emarginate, entire, prominent clinandrium; the leaves are narrowly elliptic and acute. It is close to *Epidendrum zosterifolium* which has sepals 5-7 mm long, greenish white flowers, with the middle near the apex of sepals and lip deep green, lateral lobes of the lip small and erose, the prominent funnel-shaped, bilobed, erose clinandrium, a strong, daytime, spicy fragrance, leaves oblong, bilobed.



CONSERVATION STATUS: DD. Data deficient.

ETYMOLOGY: In reference to the River Pucuno, an affluent of the Napo River near Puerto Francisco de Orellana, near which the type was collected.

Authors: E. Hágsater & C. H. Dodson **Illustrator: R. Jiménez M.** **Editors: E. Hágsater & L. Sánchez S.**
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EPIDENDRUM PUTIDOCARDIOPHYLLUM Hágsater & Dodson Plate 477

EPIDENDRUM PUTIDOCARDIOPHYLLUM Hágsater et Dodson, *sp. nov.*

Type: ECUADOR: Imbabura: Near Camp Equator, due east of Volcán de Cayambe, 3195 m, epiphyte, in chaparral, 15 July 1944. ***W. B. Drew E-328.*** Holotype: AMES! (illustration voucher).

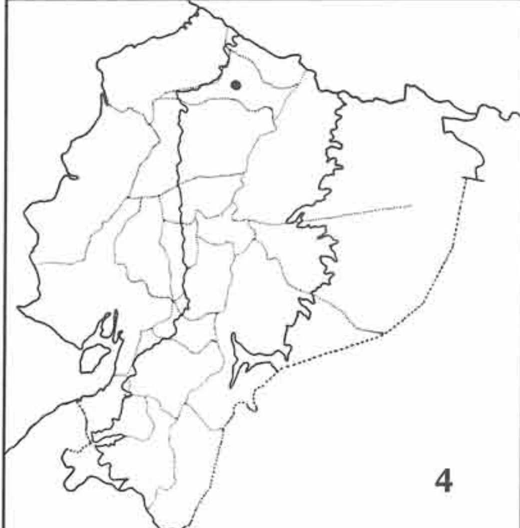
Epidendro lima Lindl. simile sed floribus aliquantum majoribus, petalis uninervatis nervatione ramosa, labelli lobulis lateralibus perparvis triangularibus acutis discrepans.

Hierba epífita, ramificado arriba, de más de 60 cm de alto. **Raíces** no vistas. **Tallos** ramificados arriba, tipo caña, teretes, rectos, el principal más de 50 x 0.35-4.5cm, las ramas secundarias (inmaduras) de 4.5-6.5 x 0.3-0.4 cm. **Hojas** numerosas en el tallo principal, 6-7 en las ramas, distribuidas a lo largo de los tallos, alternas; vainas tubulares, estriadas y finamente rugosas, hasta de 2.5 cm de largo; lámina elíptica a lanceolada, ápice agudo, con una quilla dorsal, margen ligeramente revoluto cuando seco, apicalmente dentado, lisa, las del tallo principal gradualmente más pequeñas hacia el ápice, 3.3-6.3 x 0.9-1.5 cm, las de las ramas más pequeñas en la base 0.5-4.0 x 0.5-1.1 cm. **Espata** ausente. **Inflorescencia** apical, del tallo maduro, racemosa, arqueada, florece una sola vez, 7.7 cm de largo, pedúnculo corto, terete, no ornamentado, desprovisto de brácteas, las flores producidas en fascículos, tres en cada nivel alrededor del raquis. **Brácteas florales** de algo más de la mitad de largo del ovario, gradualmente más pequeñas hacia en ápice de la inflorescencia, triangulares, acuminadas, 13-16 mm de largo. **Flores** ca. 23, sucesivas, resupinadas, pétalos y sépalos púrpura verdoso por fuera, verde claro por dentro, labelo verde con puntos morados alrededor de la columna, ovario púrpura verdoso, fragancia fuerte desagradable. **Ovario** delgado, terete, no inflado, no ornamentado, 20-24 mm de largo. **Sépalos** entreabiertos, libres, oblongo elípticos, ápice aristado, con una quilla dorsal prominente y acuminada, margen extendido y entero, membranáceos, 3 nervados, 17-18 x 0.35-4 mm; los **laterales** ligeramente oblicuos. **Pétalos** entreabiertos, angostamente oblongos, agudos, margen diminutamente dentado papiloso, membranáceos, 1 nervados, las nervaduras ramificadas, 16 x 1.5 mm. **Labelo** unido a la columna, trilobado, base cordada, 11 x 7 mm; bicalloso, los callos triangulares, prominentes, laminares, divergentes, disco provisto de 3 venas engrosadas a lo largo del mismo, llegando hasta el seno apical; lóbulos laterales pequeños, doblados en la base y connados a la base de los callos en posición natural, oblicuamente triangulares cuando se extienden, agudos, margen entero; 3 x 2 mm; lóbulo medio mucho más grande que los laterales, rectangular, alargado, apiculado, margen entero, con un par de prominencias laterales en el ápice, semiorbiculares, 9 x 5.2 mm. **Columna** ligeramente arqueada, delgada, 9 mm de largo. **Clinandrio** corto, margen irregular. **Antera** 4 locular. **Polinios** 4, ovoides, desiguales. **Rostelo** apical, hendido. **Lóbulos laterales del estigma** de 1/2 de la mitad del largo de la cavidad estigmática. **Nectario** penetrando 2/3 del ovario, delgado, no ornamentado. **Cápsula** no vista.

Epiphytic, branching **herb. Stems** cane-like, laterally compressed, branching above. **Leaves** numerous, distributed throughout the stem, sheaths finely rugose and striated, blade elliptic to lanceolate, acute, apical margin dentate, those of the branches somewhat smaller. **Inflorescence** apical, racemose, flowering only once, the flowers produced in fascicles, three at each level. **Floral bracts** nearly half as long as the ovary, acuminate. **Flowers** successive, resupinate, sepals and petals greenish purple outside, pale green within, lip green with purple dots towards column; strong unpleasant odor. **Ovary** terete, thin. **Sepals** partly spreading, oblong-elliptic, aristate, dorsal keel prominent towards the apex, 3-veined. **Petals** partly spreading, narrowly oblong, acute, margin minutely dentate-papillose, 1-veined, the vein branching. **Lip** united to the column, 3-lobed, base cordate, bicallose, the calli prominent, triangular, laminar, divergent; lateral lobes very small, obliquely triangular when spread, acute, base bent and connate at the base of calli in natural position; midlobe long, rectangular, much larger than the lateral lobes, with a pair of semicircular lobes at the apex, apiculate. **Column** thin, slightly arched. **Clinandrium** short, margin irregular. **Nectary** penetrating two third of the ovary.

OTHER SPECIMENS: None seen.

DISTRIBUTION AND ECOLOGY: Known only from northern Ecuador, from the Amazon side of the Andes at 3000 m altitude, in chaparral. Flowering in July.

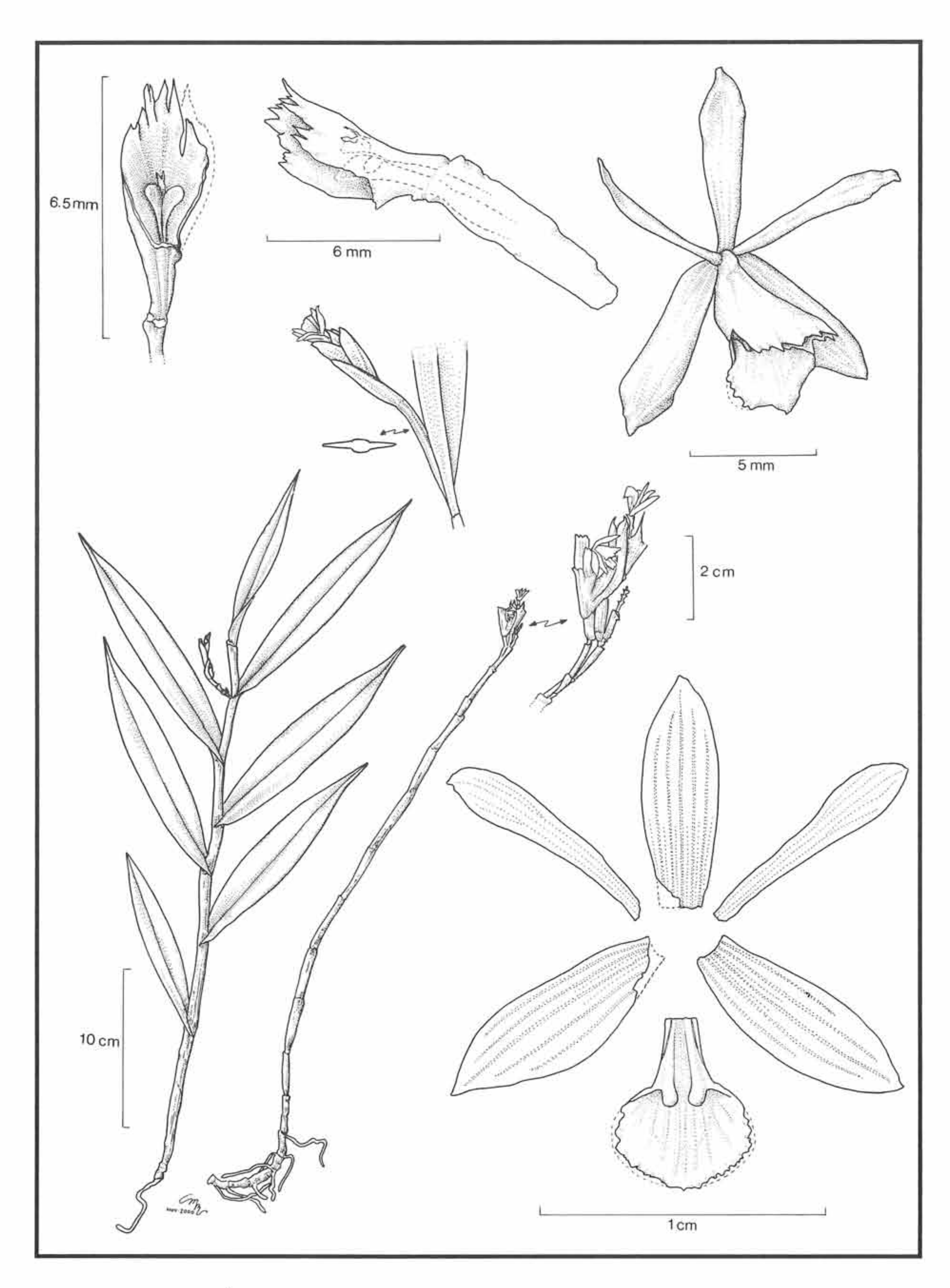


RECOGNITION: *Epidendrum putidocardiophyllum* belongs to the cardiophyllum group recognized by the branching stems and acute leaves, and the fritzianum subgroup which has a 3-lobed lip. It is recognized by the partly spreading green flowers with purple dots on the lip, 17-18 mm long sepals, the oblong petals with a finely dentate margin, 1-veined, the vein much branched, the 3-lobed lip with very small, triangular lateral lobes and a large, straight rectangular midlobe apiculate and with a semicircular lobe on each side of the apex; the flowers with a strong unpleasant odor. It is similar to *E. fritzianum* Hoehne which has smaller green flowers, the sepals striped black and the lip black dotted in lines, the lateral lobes of the lip rounded and about as large as the cuneate midlobe. *Epidendrum lima* Lindl. has sepals 15-16 mm long, petals 3-veined, lateral lobes of the lip rounded, smaller than the cuneate midlobe.

CONSERVATION STATUS: DD. Data deficient.

ETYMOLOGY: From the Latin *putidus,* stinking, rotten, and *cardiophyllum*, in relation to the group to which it belongs in the genus.

Authors: E. Hágsater & C. H. Dodson **Illustrator: R. Jiménez M.** **Editors: E. Hágsater & L. Sánchez S.**
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EPIDENDRUM PUYOËNSE Hágsater & Dodson

Plate 478

EPIDENDRUM PUYOËNSE Hágsater et Dodson, *sp. nov.*

Type: ECUADOR: Pastaza: Mera, 1100 m, 01 Feb. 1956. ***Eric Asplund 19158.*** Holtype: AMES! (illustration voucher). Isotype: S!

Epidendro gentryi Dodson simile sed caulibus lateraliter compressis, ad partem mediam non incrassatis, inflorescentiis apicalibus et lateralibus, floribus minoribus, clinandrio infundibuliformi profunde fimbriato differens.

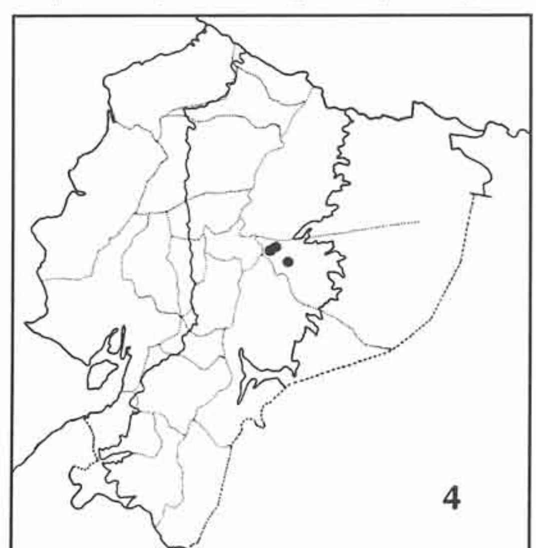
Hierba epífita, cespitosa, erecta, de 38-75 cm de alto. **Raíces** de los entrenudos basales, carnosas, 1.0-1.5 mm de grosor. **Tallos** sencillos, tipo caña, ancipitosos, ligeramente flexuosos, 31-37 x 0.27-0.6 cm. **Hojas** 6-10, distribuidas a lo largo del tallo, desiguales; vainas tubulares, lateralmente aplanadas, ligeramente estriadas cuando secas, con el tiempo fibrosas, 3.0-4.5 cm de largo; lámina angostamente elíptica, acuminada, margen entero, 10-21 x 1.2-2.8 cm. **Espata** ausente. **Inflorescencia** apical y lateral del crecimiento maduro, produciendo racimos nuevos, racemosa compuesta; inflorescencia apical erecta, 5.6-10 cm de largo, pedúnculo ancipitoso, bialado, desnudo, con una bráctea prominente en el ápice, bráctea apical semejante a las florales pero más grande, conduplicada, elíptica, redondeada, fibrosa con el tiempo, 26-37 x 4-6 mm; inflorescencias laterales (frecuentemente hay una lateral en la base de la apical) cubiertas por 3-5 brácteas conduplicadas, semejantes a la del ápice del pedúnculo apical. **Brácteas florales** tan largas como el ovario, elípticas, redondeadas, conduplicadas, fibrosas con el tiempo, 10 mm de largo. **Ovario** terete, no inflado, no ornamentado, 10 mm de largo. **Flores** 8, sucesivas, verdes, sin datos de fragancia. **Sépalos** entreabiertos, libres, elípticos, agudos, margen entero, 5-nervados, 8.0-10.0 x 2.6-3.1 mm. **Pétalos** entreabiertos, libres, oblanceolados espatulados, redondeados, 3-nervados, 8.3 x 1.6 mm. **Labelo** unido a la columna, entero, suborbicular, margen diminutamente eroso dentado, 3.5-5.0 x 4.8-5.0 mm; bicalloso, los callos pequeños, subglobosos; disco desprovisto de quillas. **Columna** corta, 6 mm de largo incluyendo el clinandrio. **Clinandrio** prominente, proyectándose otro tanto del cuerpo de la columna, en forma de embudo, amplio y profundamente fimbriado. **Antera** no vista. **Polinios** no vistos. **Rostelo** no visto. **Lóbulos laterales del estigma** de ½ del largo de la cavidad estigmática. **Nectario** traspasando el perianto. **Cápsula** ovoidea, 20 x 12 mm, con un pedicelo basal delgado de 5 mm de largo, cuello apical nulo.

Epiphytic, caespitose **herb. Roots** from the basal nodes of the stem, fleshy. **Stem** simple, cane-like, ancipitose, somewhat flexuous. **Leaves** 7, distributed throughout the stem, unequal; sheaths tubular, laterally compressed, somewhat striated when dry; blade narrowly elliptic, acuminate, margin entire. **Inflorescence** apical and lateral, compound racemose, producing new racemes through time, the apical inflorescence erect, peduncle relatively long, ancipitous, each raceme covered by a conduplicate bract, similar to but larger than the floral bracts. **Floral bracts** as long as the ovary, elliptic, rounded, conduplicate. **Ovary** terete. **Flowers** 8, successive, green. **Sepals** partly open, elliptic, acute, margin entire, 5-veined. **Petals** partly open, oblanceolate, spathulate, rounded, 3-veined. **Lip** entire, suborbicular, margin minutely erose-dentate, bicallose, the calli small, subglobose. **Column** short. **Clinandrium** prominent, projecting forward another length of the column, funnel-shaped, deeply fimbriate. **Nectary** penetrating the ovary.

OTHER SPECIMENS: Ecuador: Pastaza: Hacienda San Antonio Barón von Humboldt, *Dodson & Bermeo 15695,* QCA! RPSC! Hacienda San Antonio Barón von Humboldt, *Hágsater & Dodson 9079*, AMO! Puyo, *A. Skutch 4465*, AMES (x3)!

DISTRIBUTION AND ECOLOGY: Known only from the vicinity of Mera and Puyo, and Arapicos, on the eastern slopes of the Andes in central Ecuador, at around 1000-1100 m altitude. Flowering from December to April, August, probably throughout the year.

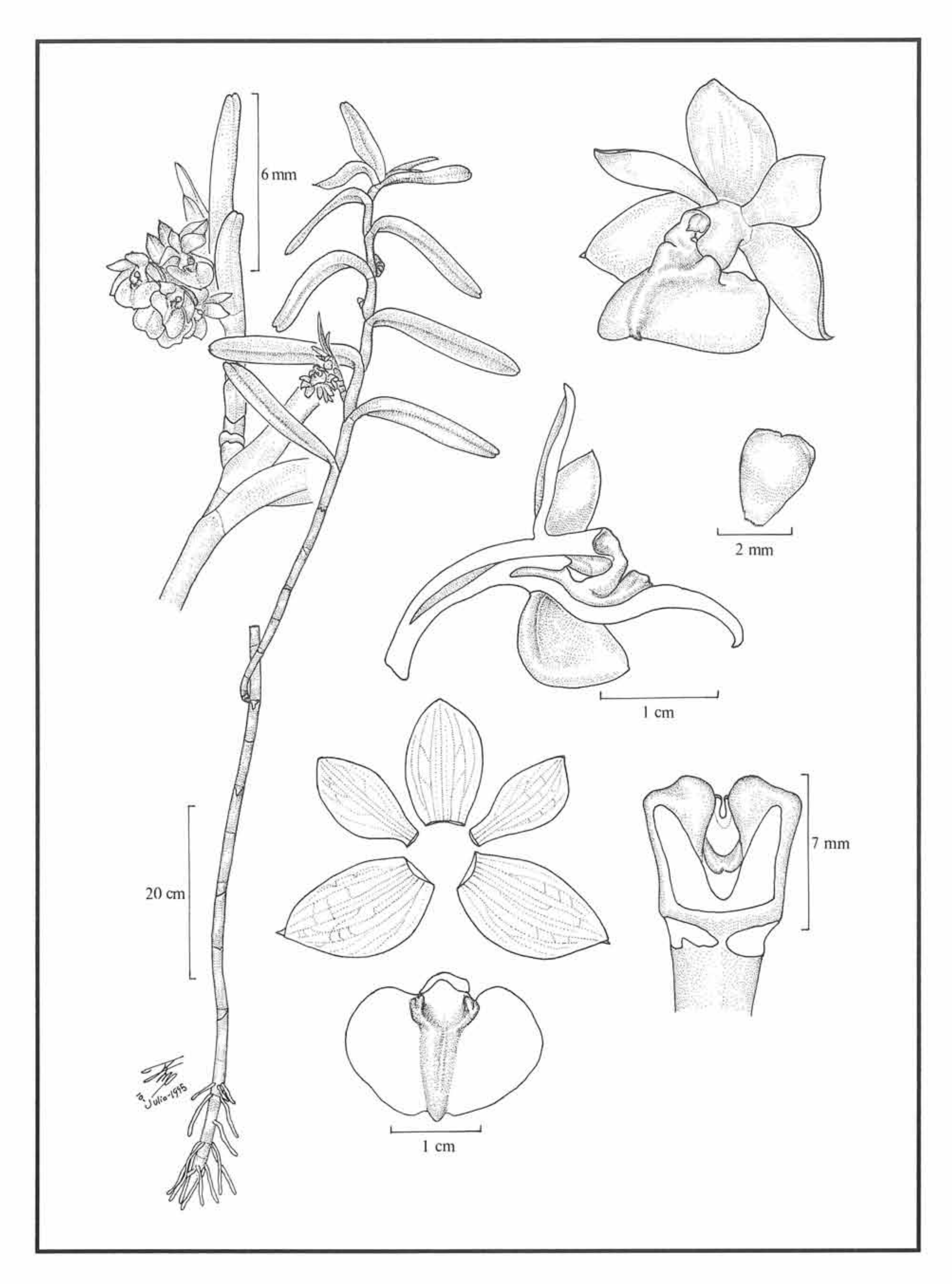
RECONGITION: *Epidendrum puyoënse* belongs to the physinga group, albertii subgroup, recognized by the caespitose habit, apical and lateral inflorescences, successive flowers with the ovary covered by large, conduplicate bracts, peduncle frequently ancipitose; the species is distinguished by the ancipitose stems, elongate inflorescence, sepals partly spreading, 8-10 mm long, the lip suborbicular, the margin erose-dentate and the clinandrium prominent, much surpassing the body of the column, funnel-shaped and deeply fimbriate. *Epidendrum dalessandroi* Hágsater & Dodson has much larger plants and flowers, the sepals 20-22 mm long. *Epidendrum notabile* Schltr. also has a dentate margin of lip and petals, but short, subsessile inflorescences and a short clinandrium. *Epidendrum gentryi* Dodson has somewhat swollen, terete stems, only apical inflorescences, larger flowers, sepals 12-13 mm long, clinandrium prominent, but narrow, tubular, entire, and the lip suborbicular with the margin entire. *Epidendrum dactyloclinium* Hágsater & Dodson has larger flowers, a prominent three-lobed clinandrium with the lateral lobes finger-like, the dorsal lobe deeply dentate, the lip triangular with the corners rounded, sepals spreading, and the petals linear-oblanceolate. *Epidendrum nematopetalum* Hágsater & Dodson has filiform petals, a cordiform lip and a prominent entire clinandrium somewhat arched with the apical margin minutely dentate.



CONSERVATION STATUS: DD. Data deficient. The area where this species has been collected has been heavily disturbed.

ETYMOLOGY: In reference to the town of Puyo, above which the species has been collected.

Authors: E. Hágsater & C. H. Dodson **Illustrator: M. López R.** **Editors: E. Hágsater & L. Sánchez S.**
Herbario AMO Apartado Postal 53-123, 11320 México, D.F., MÉXICO



EPIDENDRUM RENILABIOIDES Hágsater & Dodson

Plate 479

EPIDENDRUM RENILABIOIDES Hágsater et Dodson, *sp. nov.*

Type: ECUADOR: Carchi: Maldonado-Tulcan km 8.3, 0°54' N 78°06'W, 2035 m, col. 30 April 1995, flowers in spirit prepared from cult. 10 July 1995, ***E. Hágsater & C. H. Dodson 11316.*** Holotype: AMO! (also flower on card, illustration voucher).

Epidendro renilabio Schltr. simile sed floribus extus brunneo-purpureis, sepalis intus viridibus, petalis labelloque viriduli-aeneo, columna calloque albo, callo sub forma "Y", carinis binis laevibus in carinam unicam centralem transientibus, labello ad apicem truncato apiculatoque differt.

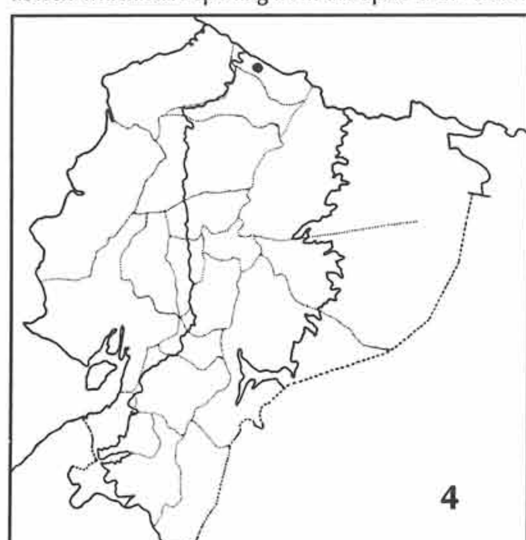
Hierba litófita, ramificada arriba, 125-200 cm de alto. **Raíces** basales, carnosas, gruesas, ca. 3-4 mm de grosor. **Tallos** tipo caña, rectos, teretes, de 125 x 9-12 mm, ramificados cerca del ápice, las ramificaciones produciendo nuevas ramas cortas a relativamente largas, a 64 cm de largo. **Hojas** numerosas, distribuidas a todo lo largo de los tallos (las del tallo principal caedizas), alternas, semejantes entre sí; vaina tubular, finamente estriada, 1.6-7.3 x 0.9-1.2 cm; lámina oblonga, ápice desigualmente bilobado, coriácea, con una quilla dorsal, margen extendido, entero, 7.5-18 x 1.6-3.2 cm. **Inflorescencia** apical, del tallo principal y de las ramas, racemosa a cortamente paniculada, arqueada nutante, ca 4-14 cm de largo, pedúnculo corto, terete. **Espata** ausente. **Flores** numerosas, sucesivas, resupinadas, labren desde el ápice del racimo hacia la base, color pardo amoratado por fuera, sépalos verdosos, pétalos y labelo blanco verdoso cobrizo, columna y callo blancos, sin datos de fragancia. **Bráctea floral** triangular, aguda, mucho más corta que el ovario. **Ovario** terete, no inflado, no ornamentado, arqueado, ca. 15 mm de largo. **Sépalos** extendidos, libres, elípticos, obtusos, subcoriáceos, margen extendido y entero, 6-nervado, 12-15 x 7-8 mm; los **laterales** aristados, ligeramente oblicuos. **Pétalos** extendidos, libres, subobtrulados, ápice obtuso, margen extendido y entero, 3-nervados, 12-13 x 5-6 mm. **Labelo** unido a la columna, reniforme, base cordada, ápice mucronado, margen entero, 11 x 20 mm; bicalloso, en forma de "Y" prolongándose en una quilla roma baja, alargada hasta el seno apical. **Columna** recta, corta, gruesa, 5 mm de largo. **Clinandrio** reducido, entero. **Antera** ovoide, 4-locular. **Polinios** no vistos. **Rostelo** subapical, hendido. **Lóbulos laterales del estigma** prominentes, de la mitad del largo de la cavidad estigmática. **Nectario** poco profundo, apenas traspasando el perianto, no inflado, no ornamentado. **Cápsula** no vista.

Lithophytic, branching, **herb. Roots** basal, fleshy, thick. **Stems** cane-like, straight, terete, branching near the apex, the branches producing new short branches. **Leaves** numerous, distributed throughout the stems, sheaths tubular, blade oblong, apex unequally bilobed, coriaceous, margin entire. **Inflorescence** apical, from the main stem and branches, racemose, arched-nutant, peduncle short, terete. **Flowers** numerous, successive, resupinate, opening from the apex of the raceme towards the base, brown-purple outside, inside sepals green, petals and lip bronzy greenish white, column and callus white. **Floral bracts** triangular, acute, much shorter that the ovary. **Sepals** spreading, elliptic, obtuse, subcoriaceous, 6-veined, the laterals aristate, somewhat oblique. **Petals** spreading, subobtrullate, obtuse, 3-veined. **Lip** reniform, base cordate, apex mucronate, margin entire; bicallose, the calli "Y" shaped, prolonged into a low, rounded keel. **Column** straight, short, thick. **Clinandrium** reduced, entire. **Nectary** shallow, barely surpassing the perianth.

OTHER SPECIMENS: ECUADOR: Carchi: Maldonado-Tulcán km 20-25, *Luther et al. 915*, SEL (x2)! Tulcán-Maldonado, 2500 m, *Dalström & Höijer 727*, SEL!

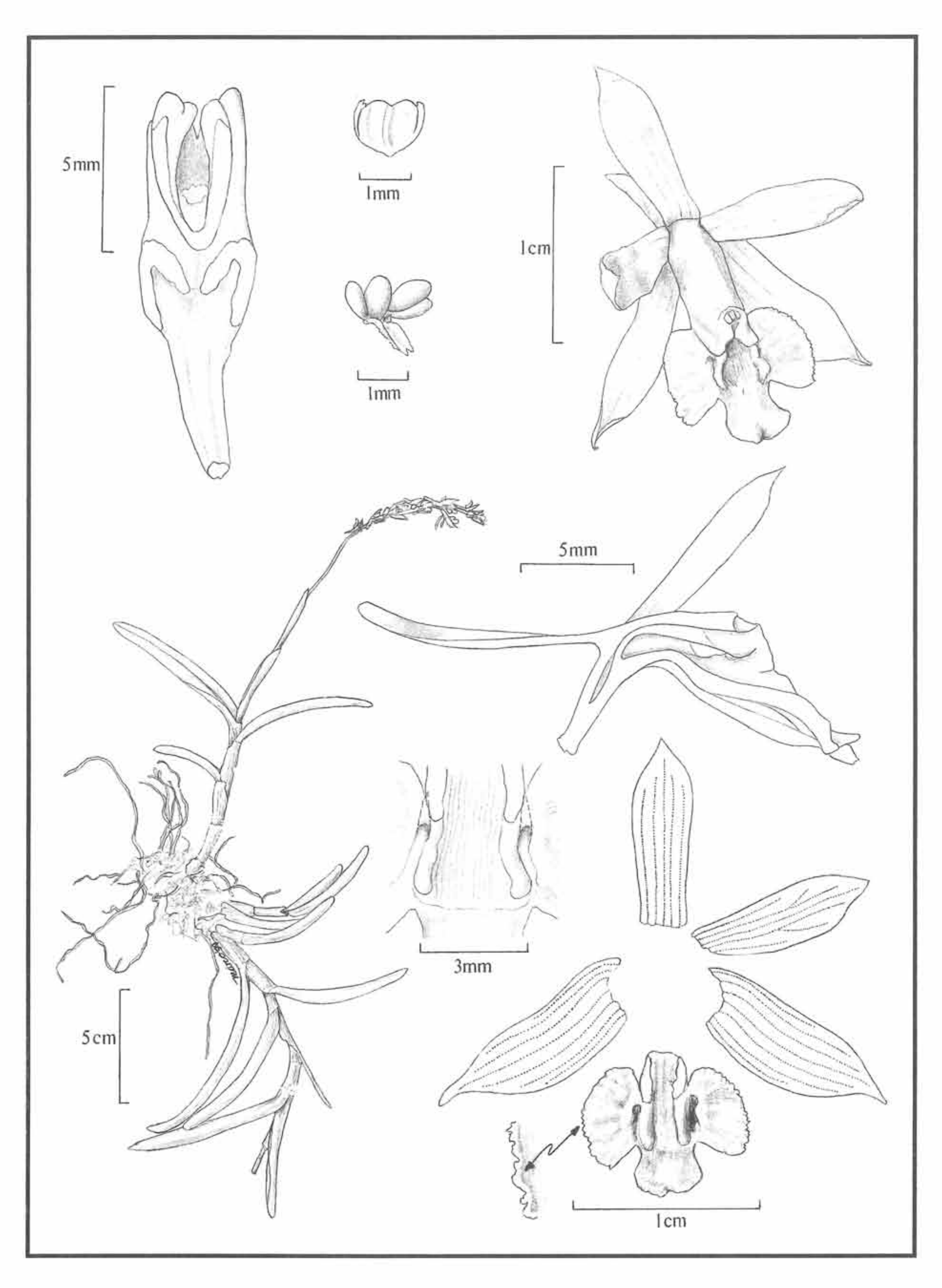
DISTRIBUTION AND ECOLOGY: Northwestern Ecuador, near the border with Colombia, above the San Juan river, at 2035-2300 m, in wet forest on moss covered rocks. Flowering in July-November.

RECOGNITION: *Epidendrum renilabioides* belongs to the renilabium subgroup of the cernuum group, recognized by the branching stems, rounded to bilobed leaf apices, and resupinate flowers with an entire to reniform lip. The species is recognized by the flowers which start opening from the apex of the raceme backwards, the flowers brown-purple on the outside, inside the sepals green, petals and lip whitish-bronzy green, the column and callus white, the lip not deeply sinuate at the apex, minutely apiculate, the callus is "Y" shaped and even. *Epidendrum renilabium* has concolor green flowers, the lip deeply emarginate at the apex with a fleshy, thick apex of the central keel protruding in the sinus; the callus is formed by two distinct laminar calli with additional growth on each side, apical flowers opening first. In other species in this group the flowers open as usual from the base to the apex of the raceme. *Epidendrum pazii* Hágsater has cream-green flowers with an agreeable fragrance, leaves 45 mm wide and is found further north in Colombia. *Epidendrum anderssonii* Hágsater & Dodson, found on the eastern slopes of the Andes, from Colombia to Bolivia, has leaves 16-28 mm wide and green-colored flowers, with no fragrance reported.



CONSERVATION STATUS: DD. Data deficient. Locally common.

ETYMOLOGY: From the Latin, *renium*, kidney, *labellum*, lip and the ending *-oides, resemblance,* in reference to the similarity between this species and that of the kidney-shaped lipped *E. renilabium*.



EPIDENDRUM RHODOIDES Hágsater & Dodson

Plate 480

EPIDENDRUM RHODOIDES Hágsater et Dodson, *sp. nov.*

Type: ECUADOR: Morona-Santiago: Road Cuenca to Limon via Gualaceo, 16 Feb. 1986, ***A. Hirtz, C. & J. Luer & A. Embree 2783.*** Holotype: RPSC! (illustration voucher).

Epidendro vidal-senegei Hágsater & Dodson simile sed floribus minoribus, petalis latioribus 5-nervatis.

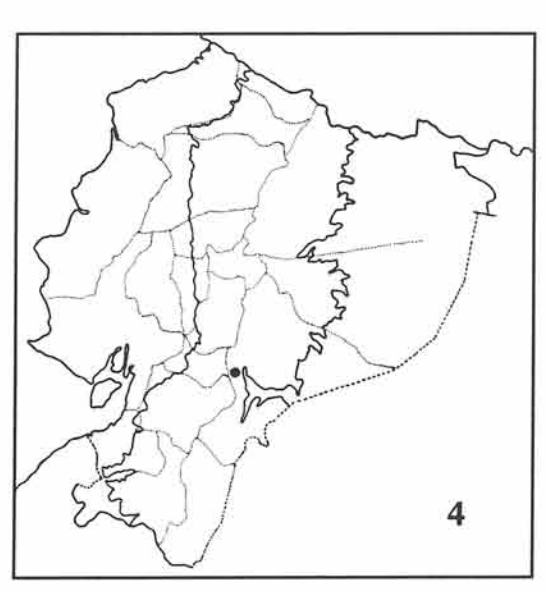
Hierba epífita, cespitosa, de 24 cm de largo. **Raíces** basales, carnosas, 0.5-1 mm de grosor. **Tallos** sencillos, erectos, tipo caña, teretes sólo en la base, lateralmente comprimidos hacia el ápice, 6.5-9 x 0.15-0.26 cm. **Hojas** 3-5, distribuidas a lo largo del tallo; vainas tubulares, lateralmente comprimidas, estriadas en seco, 1.4-1.9 x 0.32-0.5 cm; lámina angostamente oblongo lanceolada, ápice desigualmente bilobado, margen extendido y entero, 3-7 x 0.7-0.9 cm. **Espatas** 2, tubulares, conduplicadas, angostas, agudas, cubriendo casi en su totalidad al pedúnculo, 4 x 0.25-0.4 cm. **Inflorescencia** apical, racemosa, ligeramente arqueada, florece una sola vez, 17.8 cm de largo; pedúnculo erecto, lateralmente aplanado, no ornamentado; raquis terete, ligeramente flexuoso. **Brácteas florales** más cortas que el ovario, triángulares, acuminadas, 2-3 mm de largo. **Flores** 11, simultáneas, resupinadas, teñidas de rosa, especialmente la columna, labelo amarillento, fragancia no registrada. **Ovario** terete, dilatado hacia el ápice, no ornamentado, 4-9 mm de largo. **Sépalo dorsal** reflexo, obovado oblongo, agudo, margen extendido y entero, 5-nervado, 10 x 3.3 mm; los **laterales** entreabiertos, oblicuos, ovados, acuminados hacia el ápice, 7-nervados, 11 x 3.8 mm. **Pétalos** entreabiertos, libres, obovados, agudos, margen extendido y entero, 5-nervados, los nervios adjuntos al nervio medio bifurcados arriba de la mitad, 9.7 x 3 mm. **Labelo** unido a la columna, cordado en la base, trilobado, carnoso, 7.7 x 9 mm; bicalloso, callos prominentes; estrías intercallosas, paralelas a los callos; carinas ausentes; lóbulos laterales dolabriformes, margen eroso; lóbulo medio subcuadrado obcuneado, margen finamente eroso, retuso, emarginado. **Columna** corta, gruesa, 6 mm de largo. **Clinandrio** reducido, entero. **Antera** transversalmente elipsoide, con una quilla roma al frente, 4-locular. **Polinios** 4, subiguales, obovoides, caudículas casi tan largas como los polinios, granulosas. **Rostelo** apical, hendido. **Lóbulos laterales del estigma** cerca de 1/2 de largo de la cavidad estigmática. **Nectario** apenas penetrando hasta el perianto, no ornamentado. **Cápsula** no vista.

Epiphytic, caespitose **herb. Stem** cane-like, laterally compressed above. **Leaves** oblong- lanceolate, unequally bilobed. **Spathes** 2, narrow, long, acute. **Inflorescence** racemose, arching. **Flowers** simultaneous, resupinate, tinged pink, especially the column, lip straw- colored. **Ovary** short, terete, dilated towards the apex. **Dorsal sepal** reflexed, ovate-oblong, acute, 5-veined; the **laterals** partly spreading, oblique, ovate, acuminate, 7-veined. **Petals** partly spreading, obovate, acute, 5-veined, the veins on the side of the midvein bifurcate above the middle. **Lip** united to the column, cordate, 3-lobed, fleshy, bicallose, the calli prominent, striated between the calli; lateral lobes dolabriform, erose; midlobe subquadrate-obcuneate, apical margin erose, apex retuse emarginate. **Column** short, thick. **Clinandrium** reduced, entire. **Anther** transversely ellipsoid, with a low rounded keel, 4-celled. **Pollinia** 4, obovoid, caudicles about as long as the pollinia. **Nectary** barely reaching the perianth, unornamented.

OTHER SPECIMENS: None seen.

DISTRIBUTION AND ECOLOGY: Known only from southern Ecuador, Cuenca to Limon via Gualaceo, Morona-Santiago, without altitude. Epiphytic. Flowering in February.

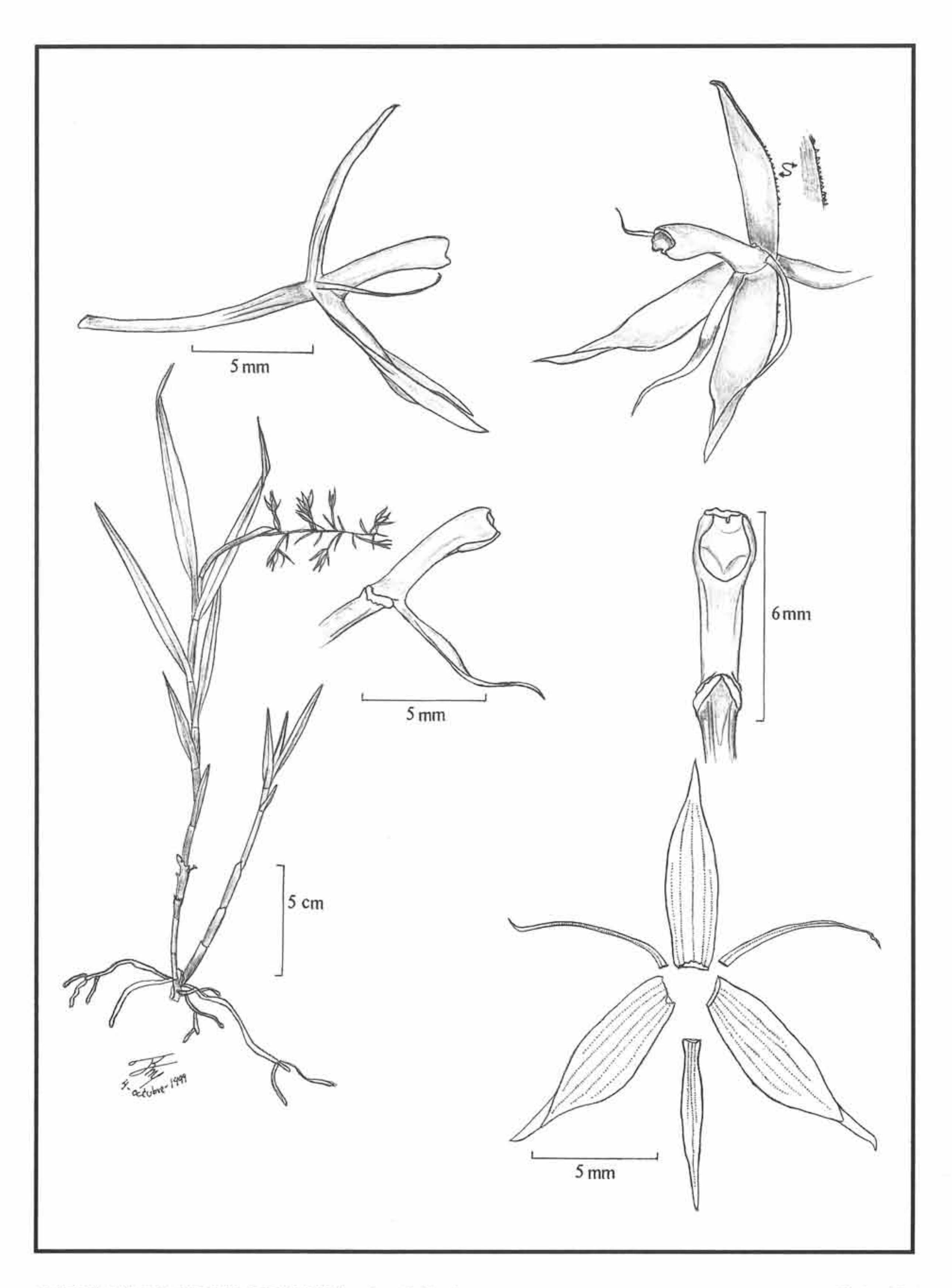
RECOGNITION: *Epidendrum rhodoides* belongs to the pergracile subgroup of the alpicolum group, recognized by the caespitose habit, racemose inflorescence with narrow, parallel-sided spathes, lax-flowered and the midlobe of the lip subquadrate; the 5-veined petals are similar to the dorsal sepal and about 10 mm long. It is similar to *Epidendrum vidal-senegei* Hágsater & Dodson, which has larger flowers, the sepals 13-16 mm long, and the petals linear, less than half as wide as the sepals, and the midlobe of the lip 3-4 times longer than wide. *Epidendrum campii* Hágsater & Dodson from about the same area has 1-veined oblong petals about 1/3 as wide as the sepals.



CONSERVATION STATUS: DD. Data deficient.

ETYMOLOGY: From the Greek ροδο- the prefix for rosy, and the suffix -οειδης, which signifies resemblance, due to the pinkish hue of the flowers.

Authors: E. Hágsater & C. H. Dodson **Illustrator: M. López R.** **Editors: E. Hágsater & L. Sánchez S.**
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EPIDENDRUM RHOPALOSTELE Hágsater & Dodson **Plate 481**

EPIDENDRUM RHOPALOSTELE Hágsater et Dodson, *nomen et stat. nov.*

Basionym: *Epidendrum dialychilum* Hágsater & Dodson subsp. *peruvianum* D.E. Benn. & Christenson, **Lindleyana** 13(1): 42. 1998. Type: PERU: Amazonas: Condorcaqui, 1250 m, Aug. 1994, leg. M. Cavero B. et al., ***Bennett 6702.*** Holotype: NY. Isotype: USM.

Hierba epífita, cespitosa, de 30-38 cm de alto. **Raíces** basales, delgadas a filiformes, de 0.5-1.2 mm de grosor. **Tallos** sencillos, tipo caña, flexuosos, comprimidos lateralmente, 17-20 x 0.1-0.3 cm. **Hojas** 6, articuladas, distribuidas en los 2/3 apicales del tallo; vainas comprimidas lateralmente, estriadas cuando secas, las inferiores no foliosas, de 1.5-2.5 cm de largo; lámina linear lanceolada, acuminada, con una quilla dorsal prominente, desiguales, progresivamente más largas, 2.5-16 x 0.3-1.4 cm. **Espatas** 1-2, agudas, del mismo largo que el pedúnculo, ancipitosas, 4.2-5 x 0.3 cm. **Inflorescencia** apical, del crecimiento maduro, racemosa, erecto arqueada, de 10-13 cm de largo, raquis recto, de 4-5 cm de largo, pedúnculo lateralmente comprimido de 5-7 cm de largo. **Brácteas florales** linear-lanceoladas, acuminadas, 6-13 x 0.5 mm. **Ovario** terete, algo más grueso en los dos tercios apicales, de 10-11 x 1 mm. **Flores** 12-20, verde claro, al parecer sucesivas, abriendo primero las centrales. **Sépalos** extendidos, oblongo elípticos, acuminados, con el margen y el dorso papilosos, 5-nervados; el **dorsal** 8.5 x 2 mm; los **laterales** largamente acuminados con una quilla dorsal prominente que se prolonga más allá del ápice, 8.8 x 2.4 mm. **Pétalos** arqueados, filiformes, acuminados, 1 nervados, 6.4 x 0.4 mm. **Labelo** libre de la columna, entero, angostamente lanceolado, con una uña en la base, de 0.8 mm de largo, acuminado, 3 nervado, recurvado en posición natural, base insertada en ángulo recto a la base de la columna, 6.7 x 0.8 mm; ecalloso. **Columna** esbelta, ensanchada hacia el ápice, áptera, de 6 mm de largo, cavidad estigmática ocupa 1/3 apical del vientre de la columna. **Clinandrio** reducido, entero. **Rostelo** apical, hendido. **Nectario** ausente. **Antera** anchamente reniforme, 4 locular. **Polinios** lenticulares, caudículas granulosas, ligeramente más larga que los polinios, viscidio semilíquido. **Cápsula** no vista.

Epiphytic, caespitose **herb. Roots** filiform. **Stems** simple, cane-like, flexuous, laterally compressed. **Leaves** 6, distributed along the apical 2/3, sheaths laterally compressed, blade linear-lanceolate, acuminate, unequal, progressively longer. **Spathes** 1-2, acute, narrow, ancipitose. **Inflorescence** racemose, erect-arching. **Floral bracts** linear-lanceolate, acuminate, shorter to somewhat longer than the ovary. **Flowers** 12-20, light green, apparently successive, the middle flowers opening first. **Sepals** spreading, oblong-elliptic, acuminate, margin and dorsally papillose, 5-veined, the laterals dorsally keeled. **Petals** arched forwards, filiform, acuminate, 1-veined. **Lip** free from the column and inserted at its base, entire, narrowly lanceolate, acuminate, 3-veined; ecallose. **Column** thin, widened towards the apex, stigmatic cavity occupying the apical third. **Clinandrium** reduced, entire. **Rostellum** apical, slit. **Pollinia** 4, lentil-shaped, caudicules granulose, viscidium semiliquid.

OTHER SPECIMENS SEEN: ECUADOR: Morona-Santiago: 6 km E. of Limón, 1300 m, *Harling & Andersson 24482*, AMES! GB! QCA! **Napo:** Baeza, por El Chaco, 1800 m, *J. Portilla sub Hágsater 12276*, AMO! SEL! **Zamora-Chinchipe:** Chuchumbeleza to Tundeimi, Cordillera del Condor, 1450-1650 m, *A. Hirtz 3825* RPSC! (illustration voucher). **PERU: Amazonas:** Serranía de Bagua, 1850-1900 m, *A. Gentry et al. 22871* SEL! Ibid. *22996* SEL!

RECOGNITION: *Epidendrum rhopalostele* belongs to the alpicolum group and is closely related to *E. dialychilum*, both having the lip free from the column, and distinguished by the linear-lanceolate, acuminate lip, the petals long filiform acuminate, and the stigmatic cavity occupies only the apical third of the column which is wider near the apex and not apically winged. *Epidendrum dialychilum* has larger flowers, acute lip and petals, and the stigmatic cavity occupying nearly the whole column ventrally; the column is wider towards the middle, and not apically winged. *Epidendrum pterostele* Hágsater & Dodson also has a free lip, but the lateral sepals are 14-15 mm long, and the column has a prominent clinandrium which produces a winged aspect towards the apex.

DISTRIBUTION AND ECOLOGY: Amazon slope of the Andes in central Ecuador and from the Cordillera del Condor along the border between Ecuador and Peru, at 1250-1650 m altitude. Flowering May-September.

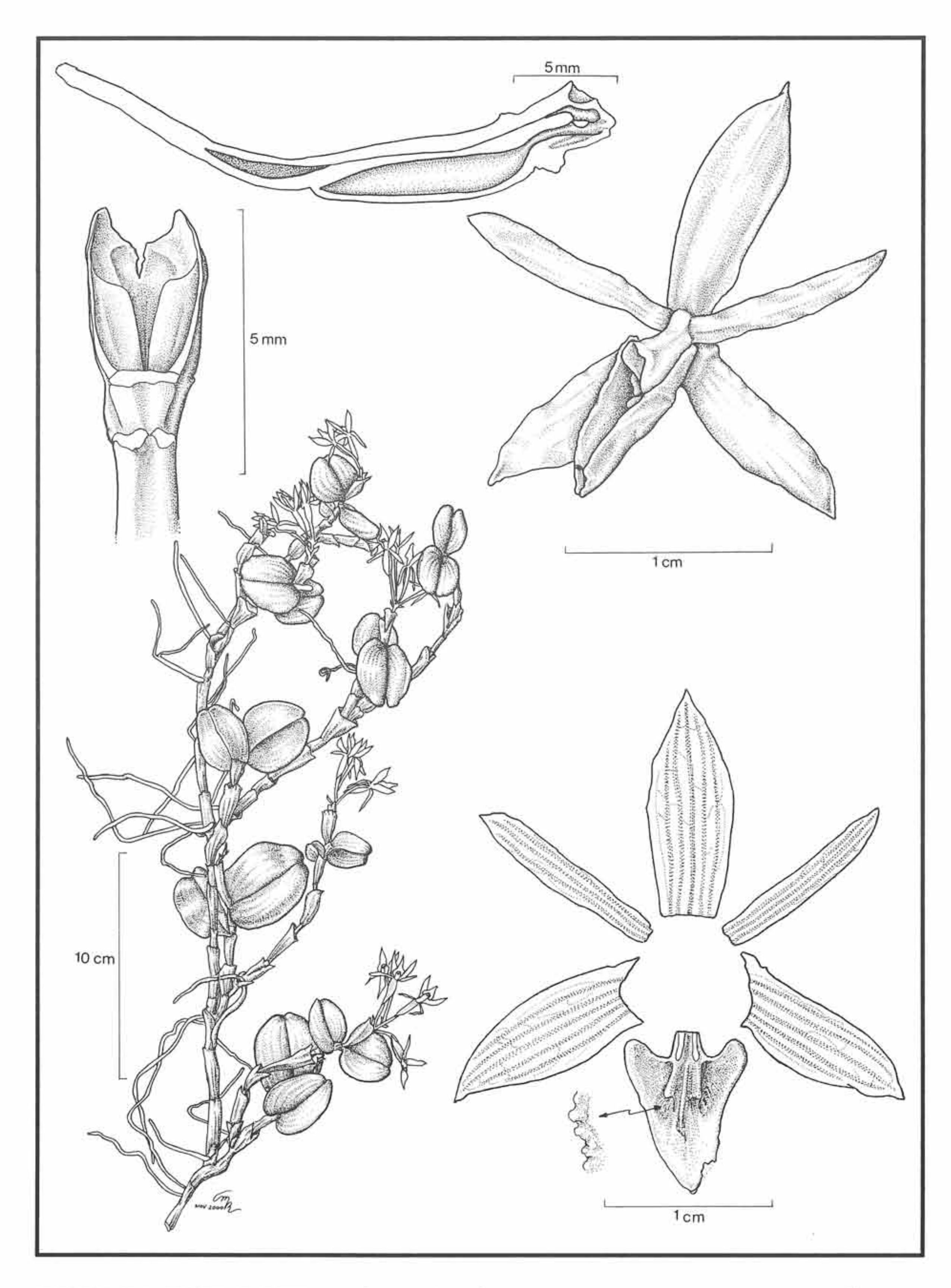
CONSERVATION STATUS: DD. Data deficient. The species grows along the border which has been in conflict for the past 50 years, with peace having been achieved in 1999, and appears widespread along the eastern slope of the Andes.

ETYMOLOGY: From the Greek ρόπαλον, club, and στήλη, column, in reference to the club-shaped column, thickened towards the apex, which distinguishes this species from its closest relatives. The name *peruvianum* cannot be used at the specific level in *Epidendrum* as it has been previously used twice for two different species.

REFERENCE: Bennett, D. E. Jr. & A. A. Christenson. 2001. *Epidendrum dialychilum* Hágsater & Dodson *ssp. peruvianum* in E. A. Christenson (ed.) **Icon. Orch. Peruv.**: pl. 636.

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Authors: E. Hágsater & C. H. Dodson **Illustrator: R. Jiménez M.** **Editors: E. Hágsater & L. Sánchez S.**
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EPIDENDRUM ROTUNDIFOLIUM Hágsater & Dodson

Plate 482

EPIDENDRUM ROTUNDIFOLIUM Hágsater et Dodson, *sp. nov.*

Type: ECUADOR: Loja: Road Celica-Guachanamá, km 8 at the Roldós memorial monument, 2700 m, 19 Feb. 1985, ***G. Harling & L. Andersson 22269.*** Holotype: QCA! Isotype: GB! (illustration voucher).

Epidendro polyanthogastrio Hágsater & Dodson similare sed foliis 2-5 circularibus, floribus 2-4, sepalis majoribus 5-nervatis, nectario post perianthum manifeste inflato discrepans.

Hierba epífita, rastrera a repente, de 12-16 cm de alto, formando plantas largas. **Raíces** basales en los tallos, escasas, delgadas, carnosas, blancas, de 0.5-1.7 mm de grosor. **Tallos** nuevos originándose de un internodo intermedio de la mitad superior del tallo anterior, formando largas cadenas de tallos, tipo caña, teretes, 6-12 x 0.17-0.4 cm. **Hojas** 2-5, agrupadas hacia el ápice del tallo, desiguales, la basal considerablemente más pequeña; vaina infundibuliforme, papirácea, finamente estriada cuando seca, 7-20 mm de largo; lámina rotunda a ovado elíptica, bilobada, subcoriácea, con una quilla dorsal, margen entero y ligeramente revoluto, 0.8-6.3[7.0] x 0.8-3.4 cm. **Espatas** 2, conduplicadas, obovadas, redondeadas, emarginadas, 1.3-1.5 x 0.52-0.61 cm. **Inflorescencia** apical, florece una sola vez, racemosa, corta, erecta, 5 cm de largo; pedúnculo totalmente cubierto por las espatas, terete, desprovisto de brácteas, 1.3 cm de largo. **Brácteas florales** mucho más cortas que el ovario, angostamente triangulares, acuminadas, de 3-4 mm de largo. **Ovario** terete, inflado ventralmente hacia la mitad apical, no ornamentado, 18-22 mm de largo. **Flores** 2-4, simultáneas, no resupinadas, de color verdoso amarillento, pardo rojizo, tomate o rojo fuego, sin datos de fragancia. **Sépalos** libres, ápice agudo, margen extendido y entero, 5-nervados; el **dorsal** reflexo, obovado, 9.3-13.5 x 4.5-5.0 mm; los **laterales** entreabiertos, elípticos, 13.0-13.5 x 4.0-4.7 mm . **Pétalos** extendidos, libres, oblongos, agudos, margen entero, 3-nervados, 9.3-12.4 x 1.8-2.1 mm. **Labelo** unido a la columna, triangular, base cordada, 9 x 7.2 mm; disco formando una cavidad tipo *Malaxis* con la superficie papilosa, con dos callos laminares y una quilla central también laminar, todas en la cavidad. **Columna** corta, gruesa, 5 mm de largo. **Clinandrio** corto, entero. **Antera** no vista. **Polinios** no vistos. **Rostelo** subapical. **Lóbulos laterales del estigma** prominentes, de un poco más de la mitad de largo de la cavidad estigmática. **Nectario** penetrando un poco menos de la mitad del ovario, inflado detrás del perianto, no ornamentado. **Cápsula** no vista.

Epiphytic, repent to climbing, sympodial **herb. Roots** few, from the basal internodes of each stem, thin, fleshy. **Stems** produced from an intermediate internode in the upper half of the previous stem, forming long chains, cane-like, terete. **Leaves** 2-3, aggregate towards the apex of the stem, unequal, the basal leaf considerably smaller; sheaths infundibuliform, papyraceus, finely striated when dry; blade rotund to elliptic-oblong, bilobed, subcoriaceous, margin entire and somewhat revolute. **Spathes** 2, conduplicate, obovate, rounded, emarginate. **Inflorescence** apical, flowering only once, racemose, short, erect, peduncle completely covered by the spathes. **Floral bracts** much shorter than the ovary, narrowly triangular-acuminate. **Ovary** terete, inflated ventrally along the apical half. **Flowers** 2-4, simultaneous, non-resupinate, greenish yellow, brownish red, tomato or fire red. **Sepals** free, acute, 5-veined, **dorsal** reflexed, obovate, **laterals** partly spreading, elliptic. **Petals** spreading, oblong, acute, margin entire, 3-veined. **Lip** united to the column, triangular, cordate, disc forming a *Malaxis*-like cavity, with the surface papillose, with two laminar calli continued into a central laminar keel, all within the cavity. **Nectary** penetrating slightly less than half the ovary, inflated behind the perianth, unornamented.

OTHER SPECIMENS: ECUADOR: Loja: Celica-Alamor, *Harling et al. 22184*, GB!, QCA! Estribaciones de Celica, *Harling et al. 22364*, QB! QCA! Sapotepamba-Celica-Guachamaca, *J. Jaramillo 10313*, QCA! **PERU: Piura:** Ayabaca, *Stuempfle 3*, AMES! Ayabaca, *Bennett et al 5905*, USM.

OTHER RECORDS: PERU: Piura: Ayabaca, *Bennett et al 5905*, **Icones Orch. Peruv.** 1: 50. 1993. (As *E. megagastrium* Lindl.)



DISTRIBUTION AND ECOLOGY: Known only from the border areas between Ecuador and Peru, on the ranges west of the western range of the Andes, around Celica, and south to Abayaca; growing in secondary scrub forest at 2700-3150 m altitude. Flowering from November to February.

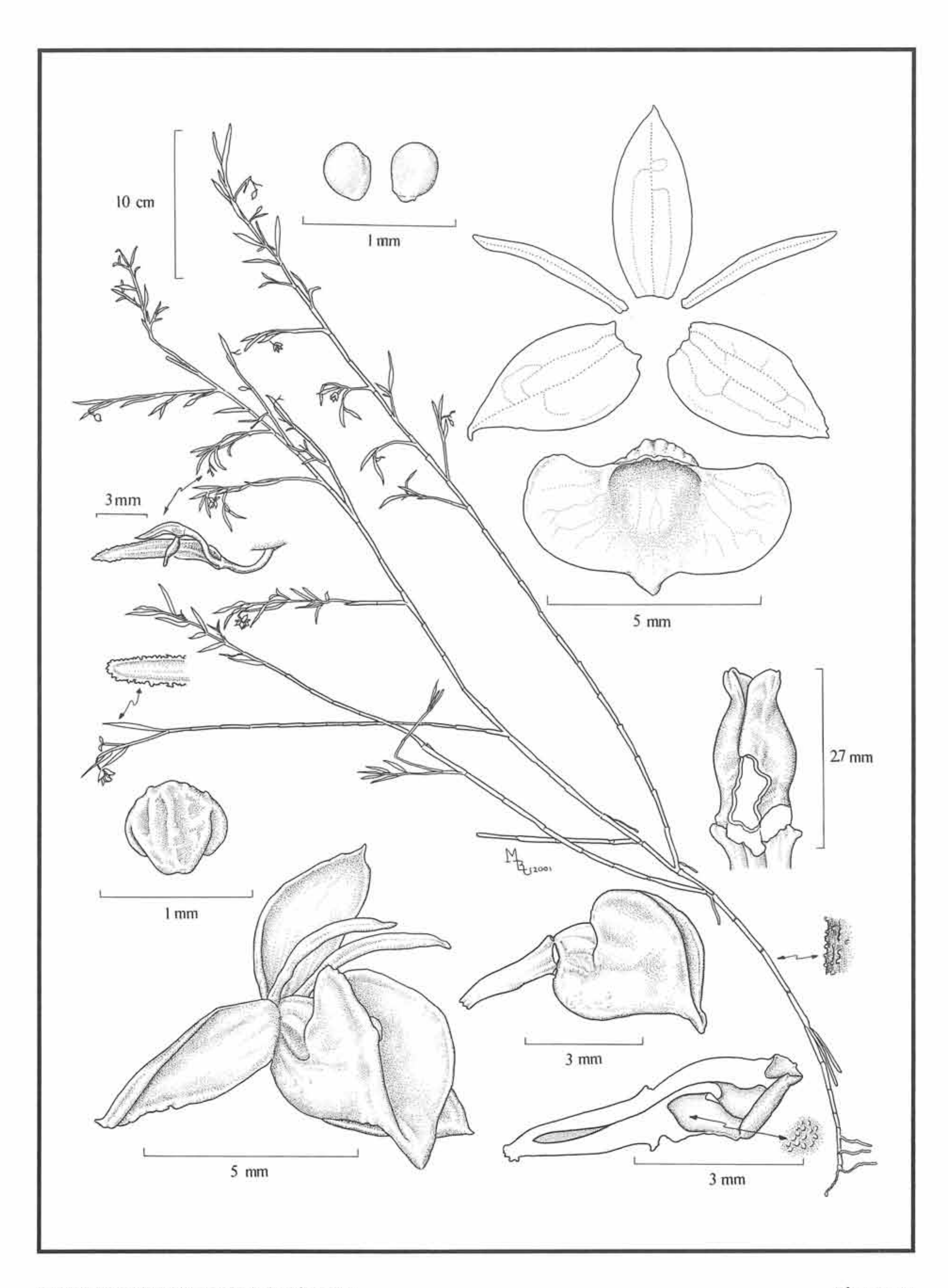
RECOGNITION: *Epidendrum rotundifolium* belongs to the megagastrium group which is recognized by the sympodial habit, the ovate spathe and papillose excavated disc of the lip. This species is recognized by the rotund to elliptic-oblong leaves, 2-4 greenish yellow to fire-red flowers. *Epidendrum megagastrium* Lindl. has sepals 20 mm long, and the leaves up to 110 mm long, about three times longer than broad. *Epidendrum polyanthogastrium* has up to 8 flowers per inflorescence, the ovary only slightly inflated up to one third of its length, sepals 8-9.5 mm long, and the 4-6 leaves about three times longer than wide, and up to 4.1 x 1.3 cm. *Epidendrum quisayanum* Schltr. has bright purple flowers.

CONSERVATION STATUS: DD. Data deficient. Found in disturbed scrub forest.

ETYMOLOGY: From the Latin *–rotundus*, almost circular, and *-folium*, leaf. In reference to the characteristic nearly circular leaves unique to this species.

Authors: E. Hágsater & C. H. Dodson **Illustrator: M. López R.** **Editors: E. Hágsater & L. Sánchez S.**

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EPIDENDRUM SACCATUM Hágsater Plate 483

EPIDENDRUM SACCATUM Hágsater, *sp. nov.*

Type: COLOMBIA: Nariño-Putumayo, entre La Cocha y San Francisco, ***Alvaro Fernández Pérez 7127-A***. Holotype: COL! (illustration voucher).

Epidendro elleanthoidi Schltr. simile sed foliis minoribus, inflorescentia simplici uni- vel biflora, labello sacciformi ecalloso, reniformi ubi protento, leviter cordato, duplo latiore quam longiore recedit.

Hierba erecta, ramificada, de más de 80 cm de alto. **Raíces** de los entrenudos basales, carnosas, delgadas, 0.5-1.5 mm de grosor. **Tallos** ramificados, tipo caña, teretes, el principal de más de 80 x 0.1-0.25 cm; los secundarios más cortos y delgados. **Hojas** numerosas, distribuidas a lo largo de los tallos; vaina tubular, finamente estriado verrugosa, hasta 3 cm de largo; lámina oblongo lanceolada, ápice obtuso, margen hialino, irregularmente eroso denticulado, especialmente hacia el ápice, 1.0-3.0 x 0.18-0.33 cm. **Espata** ausente. **Inflorescencia** apical, racemosa, dística, 6-10 mm de largo, pedúnculo corto, filiforme, 4-6 mm de largo. **Brácteas florales** mucho más largas que el ovario, abrazadoras, oblongas, agudas, margen apical eroso, uninervadas, la nervadura engrosada, 3-6 x 0.5 mm. **Ovario** terete, liso, no inflado, 3 mm de largo. **Flores** 1-2, sucesivas, no resupinadas, blancas, fragancia no registrada. **Sépalos** extendidos, ovado elípticos, agudos, margen entero, extendido, ligeramente cóncavos, 3-nervados, 4.5-5 x 2.0-2.6 mm **Pétalos** entreabiertos, ligeramente arqueados, lineares, agudos, margen entero, 1-nervados, 4.5 x 0.45 mm. **Labelo** unido a la base de la columna, entero, glabro, ecalloso, margen entero, 3.8 x 7.2 mm, sacciforme en la base, formando un mentón amplio, los lados erectos, al extenderse reniforme, base ligeramente cordada, ápice triangular obtuso, ligeramente recurvado en posición natural. **Columna** arqueada, ápice amplio en su unión oblicua con el labelo, 3 mm de largo. **Clinandrio** reducido, entero. **Antera** ovada, biceldada. **Polinios** dos, obovoides, lateralmente comprimidos. **Rostelo** subapical, hendido. **Lóbulos laterales del estigma** de 1/6 de largo de la cavidad estigmática. **Nectario** sin traspasar el perianto, formando una cavidad amplia con la base sacciforme del labelo, diminutamente papiloso. **Cápsula** no vista.

Erect, branching **herb. Roots** basal. **Stems** cane-like, terete, branching above. **Leaves** numerous, distributed throughout the stems; sheaths tubular, finely verrucose-striated; blade oblong-lanceolate, obtuse, margin hyaline, erose-dentate, especially towards the apex. **Inflorescence** apical, racemose, distichous, peduncle short, filiform. **Floral bracts** much longer than the ovary, oblong, acute, one-veined, the vein thickened, apical margin erose. **Ovary** terete. **Flowers** 1-2, successive, non-resupinate, white. **Sepals** spreading, ovate-elliptic, acute, 3-veined. **Petals** partly spreading, arched, linear, acute, 1-veined. **Lip** united to the column, entire, glabrous, ecallose, margin entire, saccate, forming a wide mentum at the base, sides upturned, reniform when spread, base somewhat cordate, apex triangular, obtuse somewhat retuse in natural position. **Column** arching, apex wide in its oblique union to the lip. **Clinandrium** reduced, entire. **Anther** ovoid, 2-celled. **Pollinia** 2, obovoid, laterally compressed. **Nectary** short, not penetrating behind the perianth, forming a wide chamber with the saccate base of the lip, minutely papillose.

OTHER SPECIMENS: COLOMBIA: Putumayo: La Cocha-Sibundoy, 2700 m, *Luer et al. 3101*, SEL!

RECOGNITION: *Epidendrum saccatum* belongs loosely to the elleanthoides group, which has thin branching stems, narrow, grassy leaves, a hair-thin peduncle of the inflorescence and successive small, delicate flowers. The species is recognized by the relatively short, narrow leaves, simple, short inflorescences, the very broad, (2:1), reniform lip terminating in a small triangular apicule and the saccate base, without calli or any ornamentation, the sides of the lip erect in natural position. *Epidendrum elleanthoides* has longer, wider leaves 40-70 x 3.5-5.0 mm, longer, branching inflorescence, and a bicallose lip which is only slightly broader than long and the base obcuneate. *Epidendrum guacamayense* Hágsater & Dodson also has a long, branching inflorescence, flowers nearly twice as long, the segments narrower and the petals about 15 times longer than broad, and the lobes of the lip overlapping above the column.

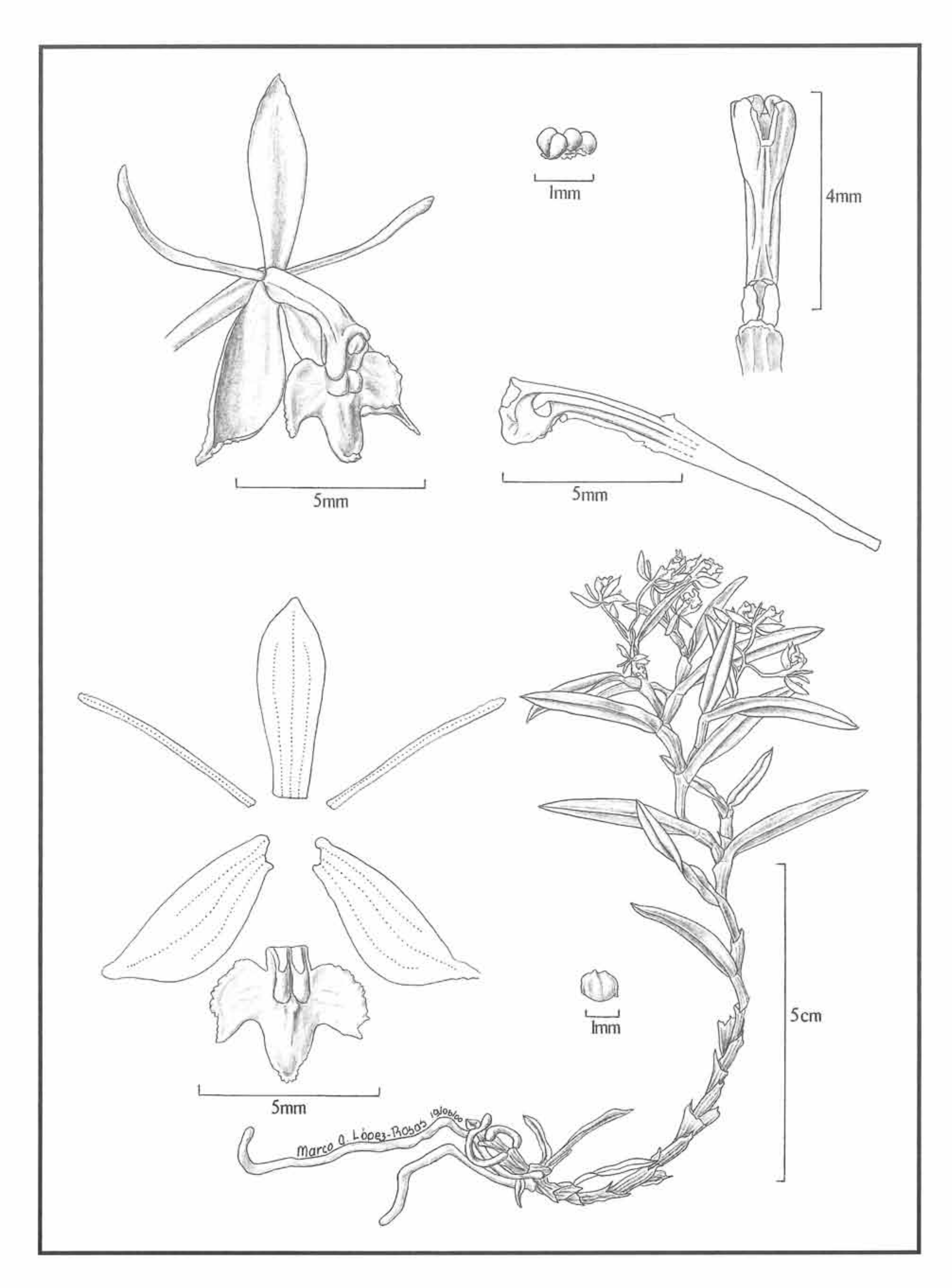
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DISTRIBUTION AND ECOLOGY: Known only from the type, on the top of the Andes in southern Colombia near the Ecuadorean border, at about 2900 m altitude. Flowering in July and later.

CONSERVATION STATUS: DD. Data deficient. Known only from the type.

ETYMOLOGY: From the Greek σακκος, bag or sack, in reference to the sac-like base of the lip which distinguishes this species.

Authors: E. Hágsater **Illustrator: M. López R.** **Editors: E. Hágsater & L. Sánchez S.**
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EPIDENDRUM SCHNEIDERI Hágsater — Plate 484

EPIDENDRUM SCHNEIDERI Hágsater, *sp. nov.*

Type: COLOMBIA: Páramo von Bogotá, epífita, 3000-3100 m, 17 Jul. 1944, ***M. Schneider 281***, S! (illustration voucher).

Epidendro chortophyllo Schltr. similare sed habitu minore, foliis brevioribus latioribusque, inflorescentia 2-5-flora, labelli lobulis obtusis, petalis linearibus differt.

Hierba epífita, suberecta, aparentemente monopodial, ramificada arriba, 12-13 cm de alto. **Raíces** basales, delgadas, carnosas, 0.5-1 mm de grosor. **Tallos** ramificados, tipo caña, lateralmente comprimidos, flexuosos, el principal 10-11 x 0.1-0.2 cm, produce 1-3 ramificaciones secundarias cortas en la mitad apical, 0.7-1.3 x 0.07-0.15 cm. **Hojas** 9-12, distribuidas a lo largo de todo el tallo; vaina lateralmente comprimida, estriada, rugosa, hasta 9.5 mm de largo; lámina articulada, linear lanceolada, provista de una quilla dorsal, apice subaristado, margen apical hialino y ondulado, las del tallo principal 1.2-2.8 x 0.2-0.35 cm, las de las ramas 1.2-2.2. x 0.2-0.3 cm. **Espata** ausente. **Inflorescencia** apical, tanto de los tallos primarios como de las ramificaciones maduras, racemosa, arqueada, nutante, laxa, raquis 0.5-1.5 cm de largo; pedúnculo filiforme, 2-5 mm de largo, ocasionalmente provisto de una bráctea aguda, ca. 5 mm de largo, en la base del raquis. **Bráctea floral** más corta que el ovario, triangular, acuminada, 2-3 mm de largo. **Flores** 2-5, simultaneas, resupinadas, sépalos verdes, por fuera con puntos rojo violeta, pétalos verde claro parduzcas, labelo verde, sin datos de fragancia. **Ovario** no inflado, terete, dilatado hacia el ápice, no ornamentado, 6-7 mm de largo. **Sépalos** extendidos, libres, agudos, margen entero, 3-nervados; el **dorsal** angostamente obovado, agudo, 6.6 x 2.2 mm; los **laterales** elíptico obovados, acuminados, oblícuos, 6.4 x 2.5 mm. **Pétalos** extendidos, libres, filiformes, ápice redondeado, margen entero, 1-nervados, 6.5 x 0.3 mm. **Labelo** unido a la columna, trilobado, base cordada, 3.4-4.1 x 4-5.1 mm; bicalloso, los callos suborbiculares, lateralmente comprimidos; disco provisto de una vena media engrosada intercallosa que se desvanece hacia el centro del lóbulo medio; lobulos laterales oblícuamente semiovados, agudos, margen externo eroso, 1.6 x 2.9 mm; lóbulo medio triangular, redondeado, margen apical eroso, 1.9 x 1.7 mm. **Columna** ligeramente arqueada, delgada, 4 mm de largo. **Clinandrio** corto, entero. **Antera** reniforme. **Polinios** 4, obovoides, caudículas suaves y granulosas, cortas. **Rostelo** apical, hendido. **Lóbulos laterales del estigma** de la mitad del largo de la cavidad estigmática. **Nectario** penetrando 1/3 del perianto. **Cápsula** no vista.

Epiphytic, **herb,** apparently monopodial, branching above. **Roots** thin, fleshy, basal. **Stems** cane-like, laterally compressed, flexuous, with short lateral branches above the middle. **Leaves** distributed throughout the stems, sheath laterally compressed, striated and rugose, blade linear-lanceolate, dorsally carinate, apex subaristate, subequal, apical margin hyaline, wavy. **Spathe** lacking. **Inflorescence** apical, from the main stem as well as the branches, racemose, arching-nutant, peduncle short, filiform. **Floral bract** shorter than the ovary, triangular, acuminate. **Flowers** 2-5, simultaneous, resupinate, sepals green, outside striped and dotted red-violet, petals greenish brown, lip green. **Ovary** thin, thickened towards the apex. **Sepals** spreading, 3-veined; dorsal narrowly obovate, acute; laterals elliptic-obovate, acuminate. **Petals** linear, rounded, 1-veined. **Lip** three-lobed, cordate, bicallose, the calli suborbicular, laterally flattened, with an intermediate thickened keel; lateral lobes semiovate, acute, oblique, the outer margin erose; midlobe triangular, the apex rounded and erose. **Column** slightly arching, thin. **Clinandrium** short, entire. **Anther** reniform. **Pollinia** 4, obovoid, caudicles soft and granulose, short. **Nectary** penetrating 1/3 of the ovary.

OTHER SPECIMENS: None seen.

DISTRIBUTION AND ECOLOGY: Known only from Colombia, on bushes in the paramo of Bogotá, at 3000-3100 m altitude. Flowering in July.

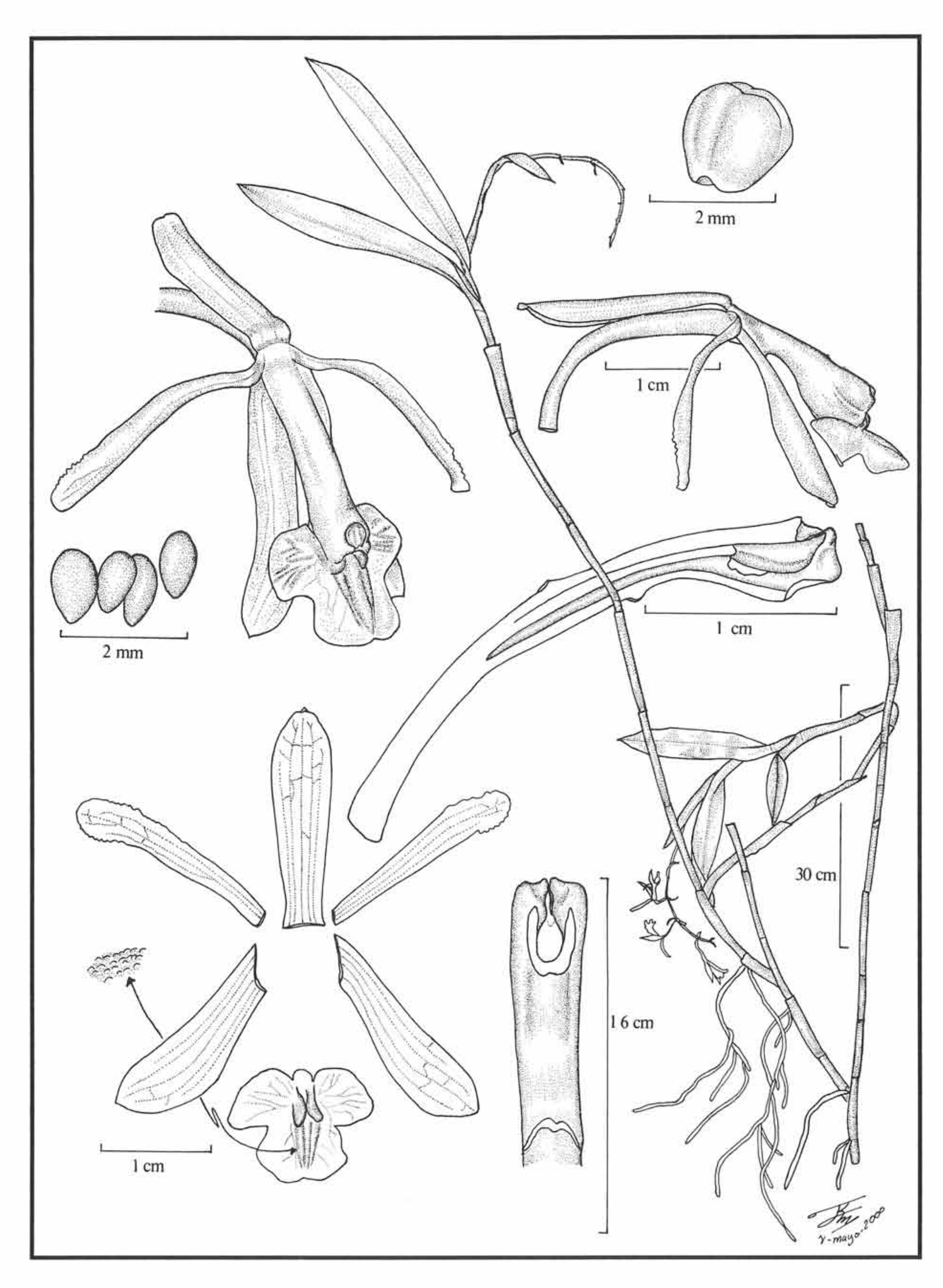


RECOGNITION: *Epidendrum schneideri* Hágsater belongs to the cardiophyllum group, soratae subgroup, with branching stems, acute to acuminate leaves and infundibuliform leaf sheaths when dry. The species is recognized by the short, monopodial plants with subapical branching, the laterally compressed sheaths, somewhat striated and rugose, the leaves subaristate with the apical margin somewhat hyaline, racemose, few-flowered inflorescence, delicate greenish flowers with linear, filiform petals and a deeply three-lobed lip, the lateral lobes semiovate, acute, with the outer margin erose, the midlobe triangular with the apex rounded and erose. *Epidendrum chortophyllum* Schltr. has much larger plants, somewhat longer, narrower leaves, sepals 5.5 mm long, wider petals, the lateral lobes of the lip transversely semiovate, and more numerous flowers, and is found at 3250-4000 m altitude in central Ecuador.

CONSERVATION STATUS: DD. Data deficient.

ETYMOLOGY: In honor of Martin Schneider who collected the type. Mr. Schneider collected around Bogotá between 1943 and 1953. Much of his material is deposited in COL, AMES and S.

Authors: E. Hágsater **Illustrator: M. López R.** **Editors: E. Hágsater & L. Sánchez S.**
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EPIDENDRUM SISGAËNSE Hágsater

Plate 485

EPIDENDRUM SISGAËNSE Hágsater *sp. nov.*

Type: COLOMBIA: Cundinamarca: Chocontá: Carretera Central del Norte, km 50, bosque antes de Represa del Sisga, epífita en bosque bajo húmedo, 2750 m, 17 Mar. 1996, ***Gonzalo Ruiz Schnitter sub E. Hágsater 11512.*** Holotype: AMO! (illustation voucher).

Epidendro klotzscheano Rchb. f. simile sed foliis paucis ad caulis prostrati apicem aggregatis, inflorescentia laxiflora suberecta racemosa usque paniculata, labello plus minusve pandurato rotundato, suo lobulo medio rectangulari solum leviter longiore quam latiore differens.

Hierba epífita, litófita o terrestre, repente en la base, hasta de 87 cm de alto. **Raíces** basales, 1-4 mm de grosor. **Tallos** sencillos, tipo caña, teretes en la base y lateralmente aplanados hacia la zona apical foliada, 21.5-56 x 0.2-0.55 cm. **Hojas** 3-5, agregadas en la parte apical del tallo; vaina tubular, lateralmente aplanada, finamente estriada, 2-5.2 x 0.5-0.77 cm; lámina oblongo elíptica, aguda y apiculada, margen entero, ligeramente revoluto, 6.5-18.5 x 1.3-3.5 cm. **Espata** 1, aguda, conduplicada, 8.5-13 x 0.55-0.65 cm. **Inflorescencia** apical, racemosa a paniculada, suberecta, florece una sola vez, 16-28 cm de largo; pedúnculo totalmente cubierto por la espata, lateralmente aplanado, 6.5-7.8 cm de largo; en algunas ocasiones provisto en la parte media de una bráctea semejante a la espata, aguda, conduplicada, 2.7 cm de largo. **Brácteas florales** disminuyendo gradualmente su tamaño de la base al ápice de la inflorescencia, tan largas a más cortas que el ovario, triangulares, largamente acuminadas, 4-16 mm de largo. **Flores** 8 a más de 15, simultáneas, abriendo de la parte basal hacia el ápice de la inflorescencia, resupinadas, color verde a verde pardusco, labelo y columna teñida de púrpura rosado a pardo rojizo. **Ovario** terete, no ornamentado, ligeramente dilatado justo detrás del perianto, 17-37 mm de largo. **Sépalos** oblanceolados, obtusos, margen entero, 4[5]-nervados; el **dorsal** reflexo, 20 x 5.0 mm; los **laterales** connados a la base de la columna, entreabiertos, oblicuos, 19 x 5.7 mm. **Pétalos** extendidos, libres, oblanceolados, obtusos, margen apical ondulado, 2-nervado, una de las nervaduras ramificada dando la apariencia de ser 3 nervado, 14-19 x 0.15-3 mm. **Labelo** unido a la columna, más o menos panduriforme, trilobado, cordado, margen entero, 8-11 x 7-12 mm; bicalloso, los callos laminares, prominentes; disco con 3 carinas, la central engrosada, alargadas hasta el seno apical, romas, papilosas; lóbulos laterales semiovoides, 2-4.6 x 4-6.5; lóbulo medio rectangular, 5-8 x 4-6.5 mm. **Columna** recta, delgada, 15 mm de largo. **Clinandrio** reducido, margen entero. **Antera** ovoide, 4-locular. **Polinios** 4, obovoides, lateralmente comprimidos. **Lóbulos laterales del estigma** de ½ de largo de la cavidad estigmática. **Nectario** penetrando 1/3 del ovario, no ornamentado. **Cápsula** no vista.

Epiphytic, lithophytic or terrestrial **herb**, repent at base. **Stems** simple, cane-like, terete below, laterally flattened above. **Leaves** 3-5, aggregate towards the apex of the stem, blade oblong-elliptic, acute and apiculate, margin entire, slightly revolute. **Spathe** 1, acute, conduplicate. **Inflorescence** apical, racemose to paniculate, suberect, peduncle totally hidden by spathe, laterally flattened, occasionally with a spathe-like bract in the middle. **Floral bracts** progressively diminishing in size, from as long as the ovary to shorter, triangular, acuminate. **Flowers** simultaneous, resupinate, green to brownish-green, lip and column with a purple-pink to reddish brown hue. **Ovary** terete, slightly dilated behind the perianth. **Sepals** free, oblanceolate, obtuse, 4[5]-veined, **dorsal** reflexed, laterals connate at base, oblique. **Petals** spreading, free, oblanceolate, obtuse, apical margin undulate, 2-veined, one of the veins branching so as to appear 3-veined. **Lip** united to the column, more or less pandurate, three-lobed, cordate, margin entire, bicallose, the calli laminar, prominent, disc 3-keeled, the central keel thickened, the keels low, papillose; lateral lobes semiovate, midlobe rectangular. **Column** straight, thin. **Clinandrium** reduced, margin entire. **Nectary** penetrating one third of the ovary.

OTHER SPECIMENS: Boyacá: Ventaquemada, *P. Ortíz V. 602*, HPUJ! Ventaquemada, *L. Uribe 6741*, COL! **Cundinamarca:** Páramo de Chingaza, *G. Huertas et al. 5939*, COL! Guasca-Junín, *P. Ortíz V. 141*, HPUJ! Guasca-Gachetá, M. *Ospina H. 1531*, AMES! Usaquén, *M. Schneider160*, AMES ! COL! [as 160/1 (x2), and 160/2]



DISTRIBUTION AND ECOLOGY: Colombia north of Bogotá, around Sisga dam and north to Boyacá, 2750 m altitude, epiphytic, lithophytic or terrestrial, in cloud forest or among bushes. Flowering in September to March.

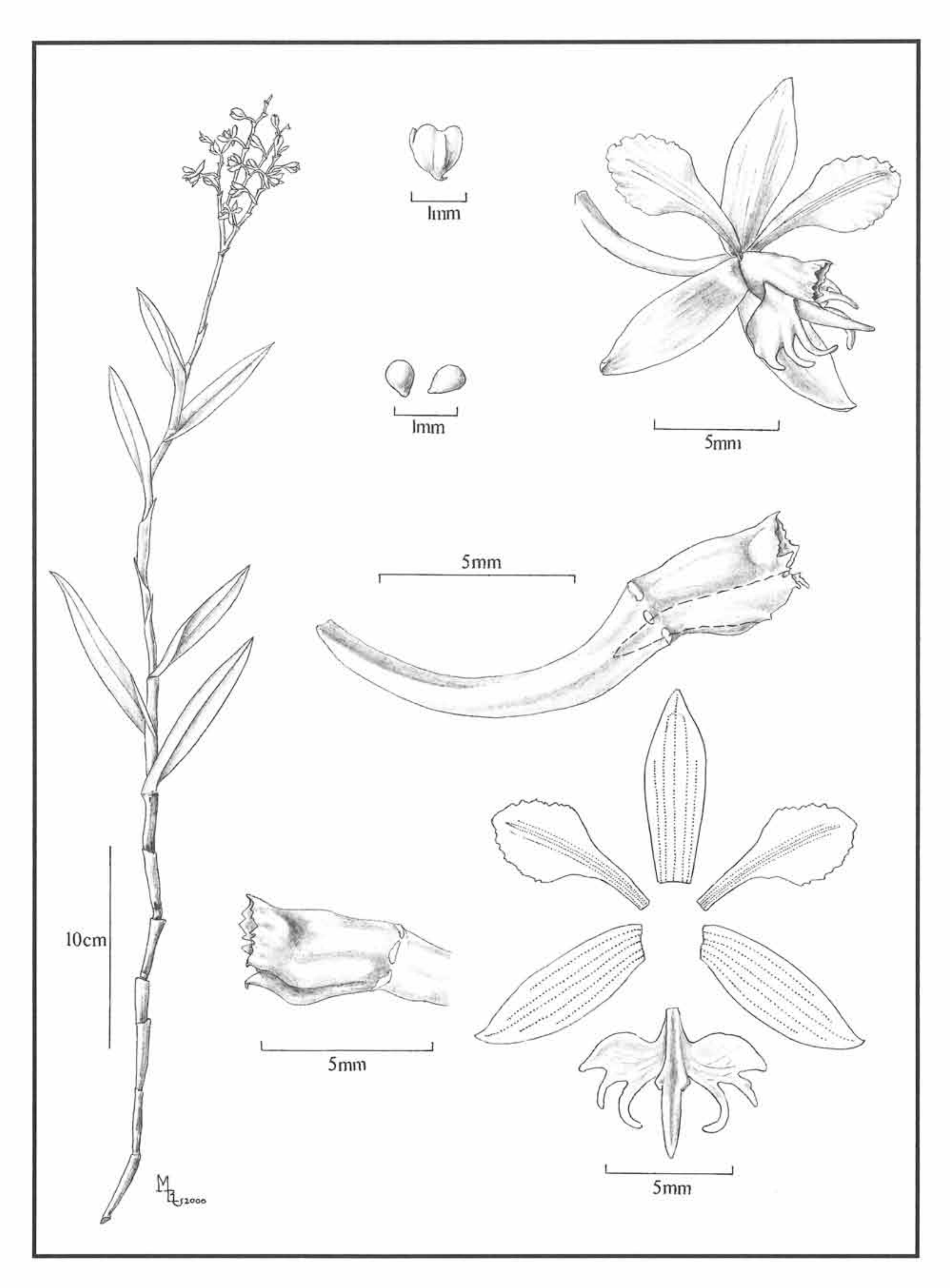
RECOGNITION *Epidendrum sisgaënse* is closely related to the friderici-guilielmii subgroup of the excisum group, recognized by the tall, unbranched stems, few (3-5), unequal leaves, the suberect inflorescence with prominent spathes; the species has a more or less pandurate 3-lobed lip, sepals 16-19.5 mm long, flowers green with pinkish-purple tinge. *Epidendrum trilobochilum* Hágsater & Dodson has a very similar shaped lip but shorter stems, smaller flowers, sepals 13-16 mm long, and the mid-lobe of the lip wider than long. *Epidendrum fruticetorum* Schltr. has sepals 15 mm long, and the lip 3-lobed, with the mid-lobe oblong, acuminate, 6 x 3.75 mm. *Epidendrum klotzscheanum* Rchb.f. has more numerous leaves, up to 12, an arching, densely many-flowered inflorescence, the lip clearly 3-lobed, the lateral lobes obovate, mid-lobe rectangular, about twice as long as wide.

CONSERVATION STATUS: DD. Data deficient.

ETYMOLOGY: In reference to the locality where the type was collected, the Sisga dam, north of Bogotá.

NOTE: There are numerous collections of this species, mostly unidentified, but sometimes under the name *E. raphidophorum* Lindl.

Authors: E. Hágsater **Illustrator: R. Jiménez M.** **Editors: E. Hágsater & L. Sánchez S.**
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EPIDENDRUM SPATHULIPETALUM Hágsater & Dressler

Plate 486

EPIDENDRUM SPATHULIPETALUM Hágsater et Dressler, *sp. nov.*

Type: PANAMA: Chiriquí: de arriba de Boquete, cultivada en Finca Dracula, Cerro Punta, 20 Aug. 1998, ***Robert L. Dressler 6230.*** Holotype: AMO! (illustration voucher). Isotype: PMA!

Epidendro cuneatoidi Dodson ex Hágsater simile sed floribus majoribus, perianthi segmentis patentibus, petalis spathulatis rotundatis erosis, labello trilobato, lobulo medio aciculari, lobulis lateralibus sub forma circuli quadranti vix vel profunde laciniatis recedit.

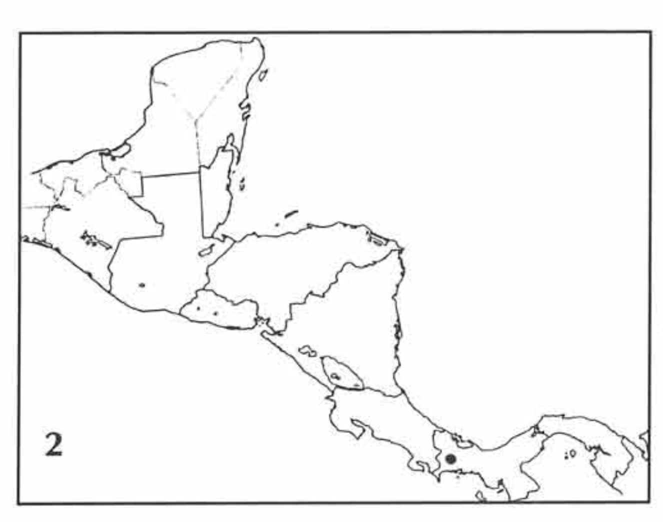
Hierba de 60 cm de alto. **Raíces** no vistas. **Tallos** erectos, sinuosos, tipo caña, lateralmente comprimidos, 44 x 0.3-0.4 cm. **Hojas** 9-13, distribuidas a lo largo de la mitad superior del tallo; vainas tubulares, ancipitosas, finamente estriadas, 1.6-3.3 x 0.4-0.5 cm; lámina angostamente elíptica, apiculada, margen entero, 6-9 x 1.0-1.4 cm. **Espata** ausente. **Inflorescencia** apical, del tallo maduro, florece una sola vez, paniculada, erecta, sinuosa, 16 cm de largo; pedúnculo ancipitoso, sinuoso, 7.8 x 0.25-0.30 mm, provisto de 3 brácteas distribuidas en toda su longitud y progresivamente más cortas, tubulares en la base, agudas, 8-19 mm de largo; raquis anciptoso, sinuoso. **Brácteas florales** más cortas que el ovario, ovadas, carinadas, agudas, margen entero, 1.5-4.0 mm de largo. **Flores** 27-100, sucesivas, no resupinadas; teñidas de rosa, en ocasiones con manchas rojas, fragancia no registrada. **Ovario** no inflado, no ornamentado, 7-9 mm de largo. **Sépalos** extendidos, ovado elípticos, agudos, 5-nervado, 7-8 x 2.5 mm; los **laterales** algo sigmoides. **Pétalos** extendidos, espatulados, redondeados, membranáceos, margen eroso, 4-nervados, 7 x 3.5 mm. **Labelo** unido a la columna, 3-lobado, cordado en la base, membranáceo, 5 x 7.5 mm, con un par de callos laminares que llegan a la base del lóbulo medio; lóbulos laterales 1/4 de circumferencia, erosos a profundamente divididos en 3 lacinias desiguales, la lateral ancha y corta, progresivamente más largas, angostas e incurvadas; lóbulo medio acicular, 3 x 0.8 mm. **Columna** recta, gruesa, 4.5 mm de largo, el margen apical truncado. **Clinandrio** truncado e irregularmente eroso dentado. **Antera** ovoide, apiculada, carnosa, 2-locular. **Polinios** 2, obovoides, lateralmente comprimidos; caudículas y viscidio no vistos. **Rostelo** no visto. **Nectario** apenas penetrando detrás del perianto. **Cápsula** no vista.

Herb to 60 cm tall. **Stems** erect, ancipitose. **Leaves** narrowly elliptic, apiculate. **Inflorescence** apical, erect, paniculate, flowers only once, peduncle long, ancipitous with 3 bracts, sinuous. **Floral bracts** much shorter than the ovary. **Flowers** 27-100, succesive, non-resupinate, tinged pink, sometimes with red blotches. **Sepals** spreading, ovate-elliptic, acute, 5-veined. **Petals** spreading, spathulate, rounded, margin erose, 4-veined. **Lip** fleshy, 3-lobed, cordate, bicallose, the calli laminar and reaching the base of the midlobe; lateral lobes ¼ of a circle, shallow to deeply 3-lobulate, the side lobe short and triangular, the others progressively longer, narrower and arcuate, midlobe acicular. **Column** straight, thick, the apex truncate and erose-dentate, including the clinandrium. **Pollinia** 2, obovoid, laterally compressed. **Nectary** penetrating slightly behind the perianth.

OTHER RECORDS: Slides of another live plant taken by Dressler at Finca Dracula in Panama, October/November 1999, Xerox at AMO!

DISTRIBUTION AND ECOLOGY: Known only from the type locality, a cultivated plant. Flowering in August-November.

RECOGNITION: *Epidendrum spathulipetalum* belongs to the *Neowilliamsia* group, recognized by the ancipitose stems and peduncle, 2 pollinia and lip 3-lobed, lateral lobes 1/4 of a circle, shallow to deeply divided into 3 more or less digitate lobules, with the petals spathulate, rounded and the margin erose, the flowers tinged pink, sometimes with red blotches, especially on the petals. It is similar to *Epidendrum cuneatoides* which has an obdeltoid-flabelliform, truncate lip, somewhat 3-lobed, the sepals around 5-6 mm long, and the flowers white with a few purple spots near the apices of the segments. *Epidendrum alfaroi* Ames & C. Schweinf. also has the lip divided into 6-9 slender, linear divisions, but 4 pollinia and the petals brown or greenish brown. *Epidendrum wercklei* Schltr. has 3-5 finger-like divisions, 2 pollinia, flowers white or yellow spotted and barred with brown or red-brown.

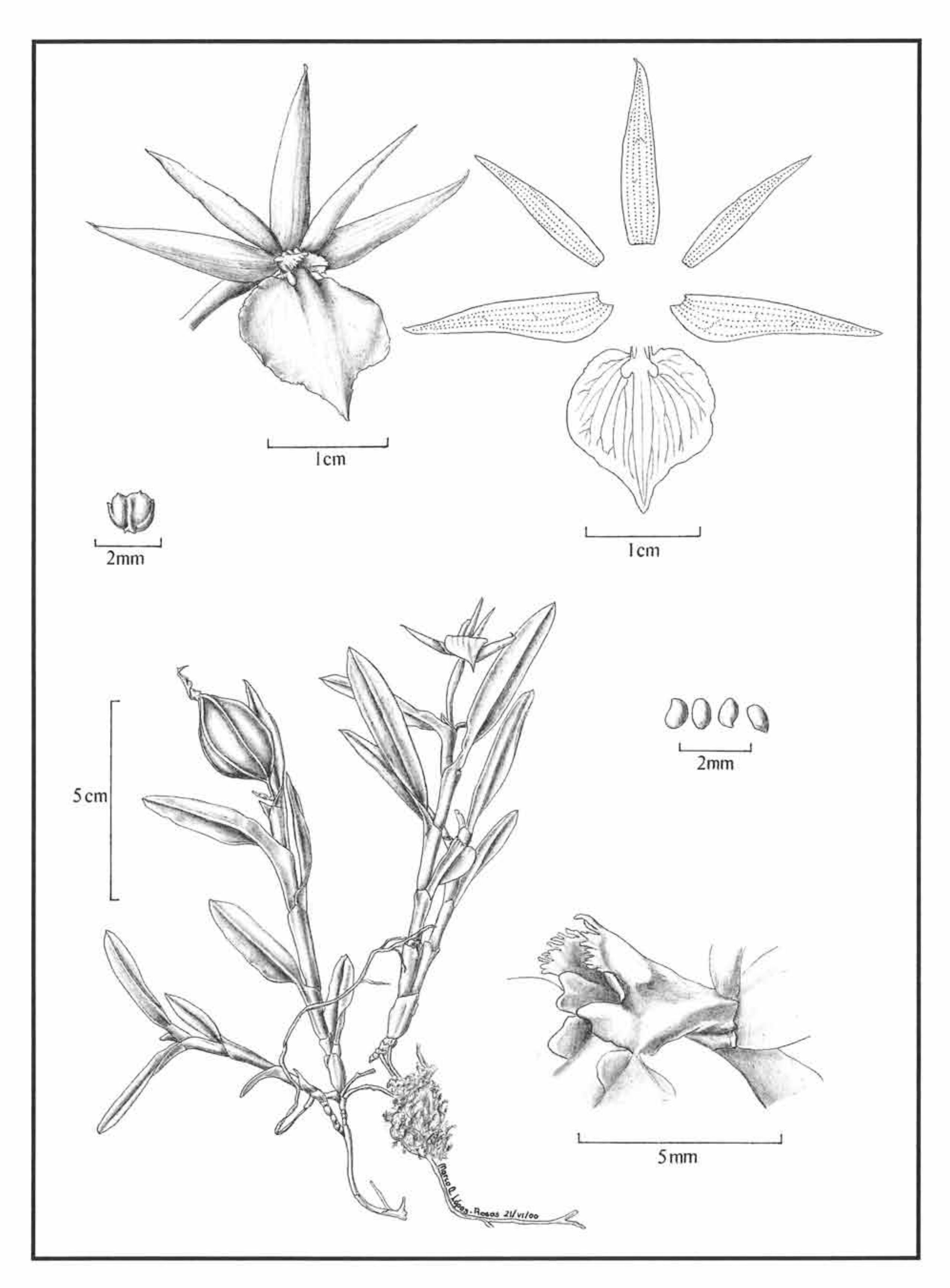


CONSERVATION STATUS: DD. Data deficient.

ETYMOLOGY: From the Greek σπαθη re-formed into the Latin "spathulatis" in the shape of a spatula, and πεταλον, leaf, in modern botany petal, in reference to the spathulate petals.

NOTE: The type was produced from a thin plant grown in a greenhouse, with the lip deeply laciniate and the petals spotted red. The second plant, later photographed by Dressler, had been tied to a tree and was much more robust, the flowers tinged pink, without any spotting, and the lateral lobes shallow erose; no specimen was prepared. The collector said they came from above Boquete, but plants were not labelled.

Authors: E. Hágsater & R. L. Dressler **Illustrator: M. López R.** **Editors: E. Hágsater & L. Sánchez S.**
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EPIDENDRUM STELLIDIFFORME Hágsater & Dodson

Plate 487

EPIDENDRUM STELLIDIFFORME Hágsater et Dodson, *sp. nov.*

Type: ECUADOR: Carchí: Maldonado, 1500 m, 2 Oct. 1981, ***L. Werling and S. Leth-Nissen 147.***
Holotype: AMES! (illustration voucher). Isotype: QCA!

Epidendro jejuno Rchb. f. similare sed habitu et floribus majoribus, petalis lanceolatis, labello suborbiculari cordiformi acuminato differens.

Hierba epífita, cespitosa, 11-14 cm de alto. **Raíces** basales, carnosas, filiformes, 0.5-0.7 mm de diámetro. **Tallos** sencillos, en algunas ocasiones creciendo aparentemente rastreros, tipo caña, algo lateralmente comprimidos, rectos, 5-8 x 0.1-0.3 cm. **Hojas** 3-5, equidistantes a lo largo del tallo; vaina lateralmente comprimida, lisa, no ornamentada, 1-2 cm de largo; lámina elíptica a lanceolada, ápice asimetricamente bilobado, coriácea, lisa, ligeramente carinada, 2.5-5 x 0.5-1.0 cm. **Espata** ausente. **Inflorescencia** apical del crecimiento maduro, florece varias veces, sésil. **Bráctea floral** mucho más pequeña que el ovario, triangular, aguda, 1.6-3 x 1-1.3 mm. **Flores** 1(2), resupinadas, simultáneas, abriendo en sucesión, pueden llegar a estar abiertas a la vez, verde brillante. **Ovario** inflado longitudinalmente en la mitad apical, terete, no ornamentado, 17-32 x 1-1.2 mm. **Sépalos** membranáceos, extendidos, libres, glabros. **Sépalo dorsal** lanceolado, acuminado, agudo, margen entero, extendido, 5-nervado, 16 x 3 mm. **Sépalos laterales** ligeramente oblicuamente lanceolados, acuminados, agudos, margen entero, extendido, 5-nervados, 18-19 x 4-4.5 mm. **Pétalos** membranáceos, extendidos, angostamente lanceolados, agudos, margen entero, extendido, 3-nervados, 14.8 x 2.2 mm. **Labelo** unido a la columna, suborbicular cordiforme, muy abruptamente acuminado en el ápice, redondeado, engrosado hacia el centro formando una carina muy baja, margen eroso, ápice revoluto en posición natural, 14.8 x 13 mm; bicalloso, los callos pequeños, subglobosos. **Columna** recta, con dos procesos laterales laminares, 5 mm de largo. **Clinandrio** prominente, sobrepasando el ápice de la columna, profunda a irregularmente dentado. **Antera** subesférica, con una protuberancia en forma de pico cerca de la base, 4-locular. **Polinios** 4, subiguales, obovoides, lateralmente comprimidos; caudículas suaves y granulosas; viscidio viscoso, translúcido. **Rostelo** no visto. **Lobulos laterales del estigma** no vistos. **Nectario** no visto. **Cápsula** semiorbicular, no ornamentada, 28 mm de largo x 18 mm de diámetro.

Epiphytic, cespitose **herb**. **Stems** somewhat laterally compressed. **Leaves** 3-5, elliptic to lanceolate, unequally bilobed, somewhat carinate. **Spathe** absent. **Inflorescence** apical from the mature stems, sessile. **Floral bracts** shorter than the ovary, triangular, acute. **Flowers** 1, rarely 2, resupinate, simultaneous, bright . **Ovary** inflated near the apex, terete, unornamented. **Dorsal sepal** lanceolate, acuminate, acute, 5-veined; the **laterals** oblique. **Petals** membranaceous, spreading, lanceolate, rounded, 3-veined. **Lip** united to the column, suborbicular-cordiform, acuminate, rounded, disc with a low keel, apex revolute; bicallose, the calli subglobose. **Column** straight, with two prominent lateral processes. **Clinandrium** prominent, deep to unequally dentate. **Anther** subspherical. **Pollinia** 4, obovoid, laterally compressed. **Capsule** semiorbicular, unornamented.

OTHER SPECIMENS: ECUADOR: Carchí: Mpio. Tulcán, debajo de Maldonado, en las afueras del poblado, *E. Hágsater, et al. 11278* AMO! **COLOMBIA: Valle del Cauca:** [without locality], *J. Folsom, et al 10441* AMO!

DISTRIBUTION AND ECOLOGY: Known from Colombia and Ecuador, epiphytic, from 1395 to 1500 m altitude. Flowering in October.

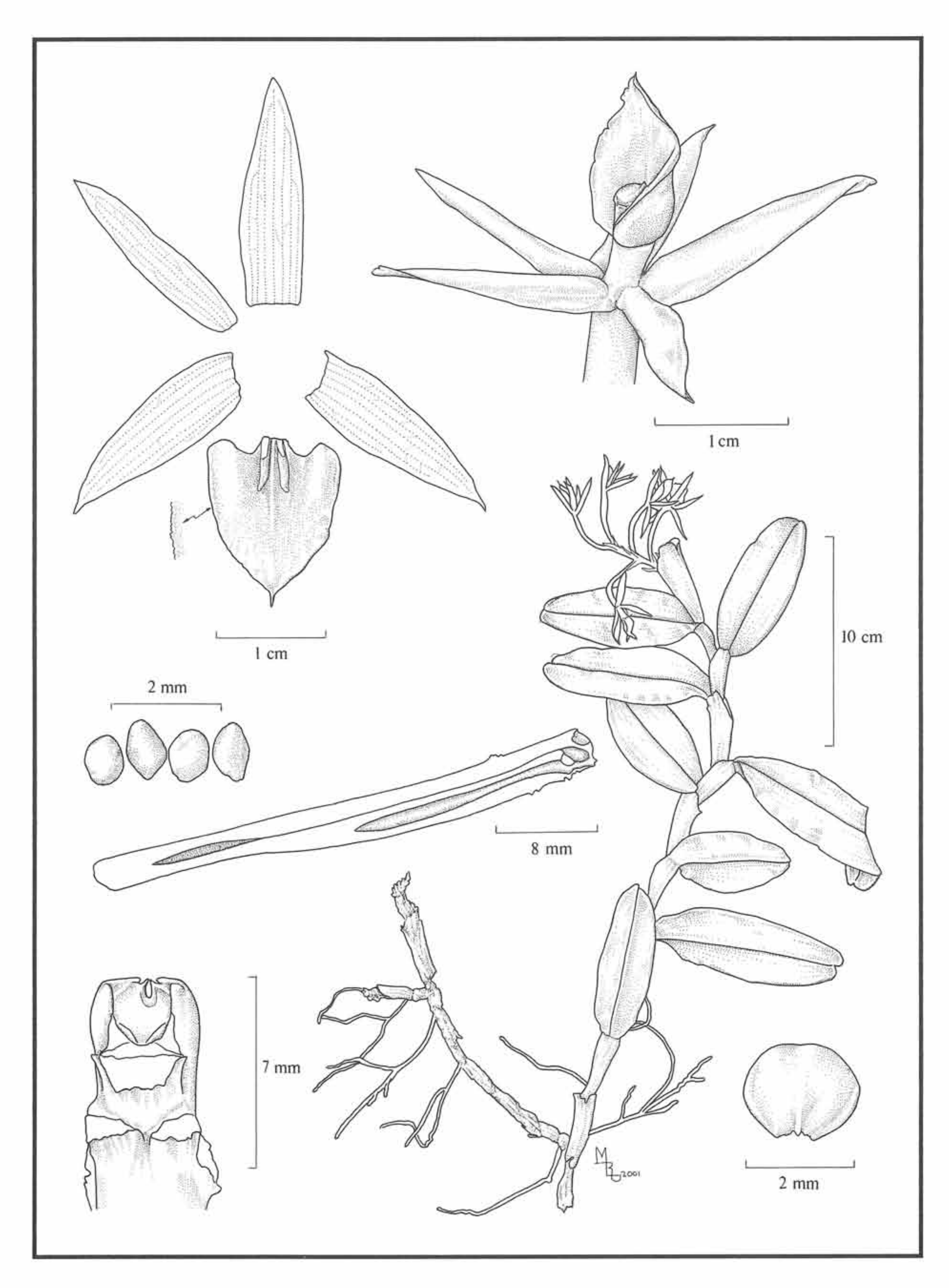
RECOGNITION: This species is a member of the difforme group, and can by recognized by its larger plants, longer flowers, lanceolate petals, suborbicular-cordiform lip with acuminate apex. It is similar to *Epidendrum jejunum* but that species has smaller plants and flowers, narrowly elliptic to rhombic petals, and a suborbicular-reniform lip with a short apicule.



CONSERVATION STATUS: DD: Data deficient.

ETYMOLOGY: From the Latin "*stella*", star, in reference to the shape of the dry flowers and "*difforme*" for the group to which the species belongs.

Authors: E. Hágsater & C. H. Dodson **Illustrator: M. López R.** **Editors: E. Hágsater & L. Sánchez S.**
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EPIDENDRUM STEVENSONII Hágsater & Dodson

Plate 488

EPIDENDRUM STEVENSONII Hágsater et Dodson, *sp. nov.*

Type: ECUADOR: Bolivar: Guaranda-San Pablo-Chillanes, km 9.5, 2300 m, 17 Feb. 1991, ***C. H. Dodson, N. Williams, M. Whitten, A. Embree & F L Stevenson18700.*** Holotype: QCNE! Isotype: RPSC! (illustration voucher).

Epidendro geminifloro Kunth simile sed habitu epiphytico, 5-10-floribus, labello integro scutiformi sine lobulis lateralibus.

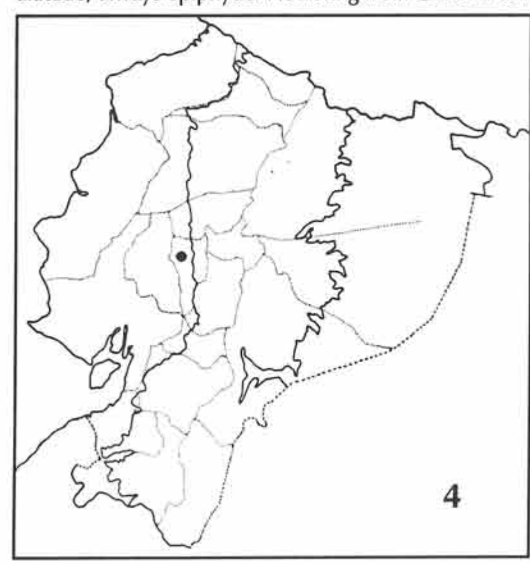
Hierba epífita, escandente, 20-39 cm de alto. **Raíces** escasas, a lo largo de la porción basal de cada tallo, sencillas, carnosas, delgadas, 2-3 mm de grosor. **Tallos** producidos hacia la mitad del tallo anterior, sencillos, tipo caña, teretes, algo flexuosos, 30 x 0.5-0.8 mm. **Hojas** 4-8, distribuidas a lo largo de la mitad superior del tallo, alternas, desiguales, las intermedias más grandes; vaina tubular, lisa, 12-50 x 5-8 mm; lámina articulada, elíptica, ápice desigualmente bilobado, subcoriácea, lisa, verde oscuro, 2.0-9.0 x 1.2-3.2 cm. **Espata** 1, oblonga a obovada, redondeada, tubular, conduplicada, 32-45 x 7-14 mm. **Inflorescencia** apical, del crecimiento maduro, florece una sola vez, sésil; pedúnculo terete, desprovisto de brácteas, totalmente cubierto por la espata, 28-34 mm de largo. **Brácteas florales** mucho más cortas que el ovario, triangulares, acuminadas, 3-6 mm de largo. **Ovario** terete, delgado, no inflado, no ornamentado, 30-41 mm de largo. **Flores** 5-10, simultáneas, no resupinadas, color blancas a verde claro tornándose amarillento anaranjadas, antera crema, sin fragancia. **Sépalos** libres, angostamente ovado, agudos, margen extendido y entero, membranáceos, glabros, 5-nervados, con una nervadura secundaria a cada lado, dando la apariencia de ser 7-nervados; el **dorsal** reflexo, 17-20 x 4-5.5 mm; los **laterales** entreabiertos, 16-21 x 4-5.5 mm. **Pétalos** extendidos, angostamente lanceolados oblongos, ápice agudo, ligeramente oblicuos, margen extendido y entero, membranáceos, 3 nervados, las nervaduras laterales ramificadas, 16-19.5 x 2-4 mm. **Labelo** unido a la columna, escutiforme, base algo cordada, ápice recto, apiculado, la base abrazando la columna en posición natural, después extendiéndose, 11-13 x 9-11 mm; bicalloso, los callos alargados, algo divergentes en el ápice, con una quilla intermedia, roma, hasta en centro del labelo. **Columna** recta, gruesa, corta, 6 mm de largo, incluyendo el clinandrio. **Clinandrio** corto, entero. **Antera** anchamente esférica, 4 locular. **Polinios** 4, obovoideos, lateralmente comprimidos, subiguales; caudículas suaves y granulosas, más cortas que los polinios; viscidio semilíquido, transparente. **Rostelo** apical, hendido. **Lóbulos laterales del estigma** grandes de la mitad del largo de la cavidad. **Nectario** largo y delgado, penetrando un poco menos de la mitad del ovario, no ornamentado. **Cápsula** no vista.

Epiphytic, sympodial **herb. Roots** thin, fleshy. **Stems** produced from the middle of the previous stem, simple, cane-like, terete, somewhat flexuous. **Leaves** 4-8, distributed throughout the upper half of the stem, unequal, the middle ones larger, sheath tubular, blade elliptic, apex unequally bilobed. **Spathe** 1, oblong to obovate, rounded, tubular, conduplicate. **Inflorescence** apical, totally covered by the spathe. **Floral bracts** much shorter than the ovary, triangular, acuminate. **Ovary** terete, thin, not inflated. **Flowers** 5-10, simultaneous, non-resupinate, white to green, turning yellowish-orange, without fragrance. **Sepals** narrowly ovate, acute, 5-veined, the lateral veins bifurcate so as to appear 7-veined. **Petals** narrowly lanceolate-oblong, acute, 3-veined, the lateral veins branching. **Lip** spade-shaped, base somewhat cordate, apex forming a straight angle, apiculate, base embracing the column, then spreading, bicallose, the calli somewhat divergent towards the apex, with an intermediate keel. **Column** straight, short, thick. **Clinandrium** short, entire. **Anther** widely spherical, 4-celled. **Pollinia** 4, obovoid, laterally compressed, subequal, caudicles soft and granular, viscidium semiliquid. **Nectary** penetrating about half the ovary, thin, unornamented.

OTHER SPECIMENS: ECUADOR: Bolivar: Balsapamba, Valle de Tablas, 1360 m, *M. Acosta S. 6165*, F! Guaranda-Chillanes, 1984, *A. Hirtz 1578*, AMO! Ibid. 2200 m, 8 Feb. 1985, *A. Hirtz sub E. Hágsater 7725.* AMO!

OTHER RECORDS: ECUADOR: Bolivar: Guaranda-Chillanes, 1985, *Hirtz sub Hágsater 7725*, illustration, AMO!

DISTRIBUTION AND ECOLOGY: Ranging on the western slopes of the western Andes in central Ecuador, ca. 1360-2200 m altitude, always epiphytic. Flowering from October to March.

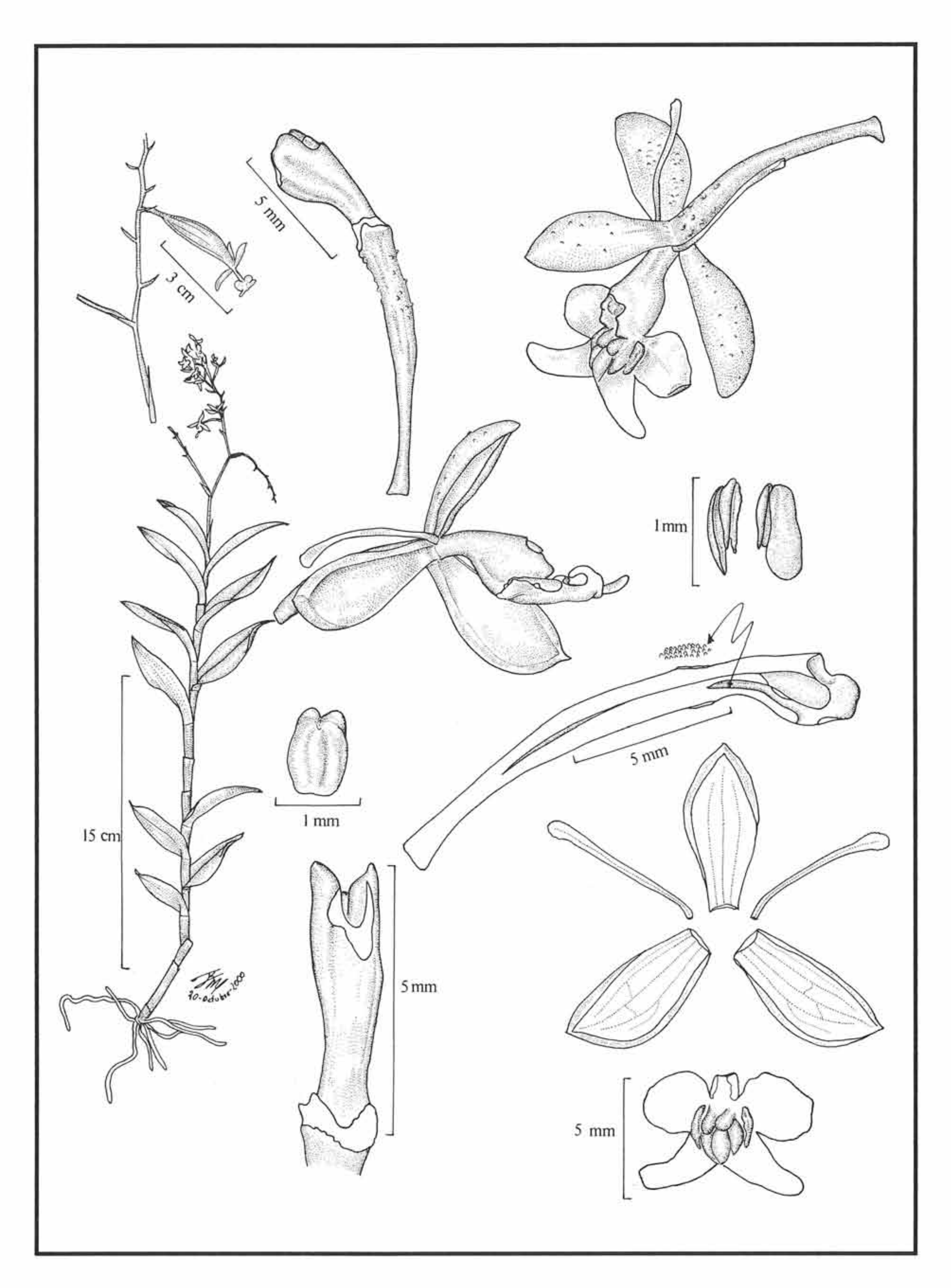


RECOGNITION: *Epidendrum stevensonii* belongs to the geminiflorum subgroup and is closely related to *E. geminiflorum* Kunth; it can be recognized by the spade-like shape of the lip, the bottom half basically square and the apical half a right-angled triangle, the flowers are relatively numerous, 5-10-flowered. *Epidendrum geminiflorum* has a basically triangular lip, with small, semiorbicular lateral lobes at the base, the inflorescence being usually 2-3[4] flowered. *Epidendrum philocremnum* Hágsater & Dodson has 13 mm long sepals, linear-elliptic petals and the lip three-lobed, the lateral lobes suborbicular; it is found on the eastern side of the Andes, on cliffs and steep roadsides. *Epidendrum rotundifolium* Hágsater & Dodson has an excavated lip, and is found farther south, on both sides of the Ecuadorian-Peruvian border.

CONSERVATION STATUS: DD. Data deficient.

ETYMOLOGY: In honor of the late F L Stevenson of Atlanta Georgia, past president of the American Orchid Society, who participated with the authors in numerous field trips including the one where the type was collected.

Authors: E. Hágsater & C. H. Dodson **Illustrator: M. López R.** **Editors: E. Hágsater & L. Sánchez S.**
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EPIDENDRUM SUCUMBIENSE Hágsater & Dodson Plate 489

EPIDENDRUM SUCUMBIENSE Hágsater et Dodson, *sp. nov.*

Type: ECUADOR: Sucumbios: Santa Bárbara de Sucumbios road to El Carmelo, 10-15 February 1959, ***Gunnar Harling 4159.*** Holotype: S! (illustration voucher).

Epidendro parvifloro Ruiz & Pavón simile sed floribus majoribus simultaneis, callis laminaribus triangularibusque discrepans.

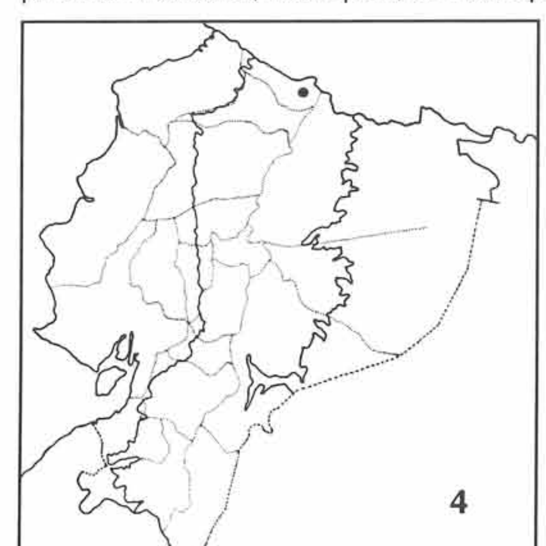
Hierba litófita, erecta, cespitosa, de 36-37 cm de alto. **Raíces** basales, carnosas, delgadas, 0.9-2 mm de grosor. **Tallos** sencillos, tipo caña, teretes, rectos, 23-24 x 0.2-0.5 cm. **Hojas** 6-13, distribuidas a todo lo largo del tallo, alternas; vaina tubular, lisa, 9-36 x 2-5 mm; lámina foliar articulada, angostamente elíptica, acuminada, margen entero, lisa, 3.3-9.0 x 0.75-1.9 cm. **Espata** ausente. **Inflorescencia** apical, del crecimiento maduro, florece una sola vez, paniculada, erecta, 13.0-14.5 cm de largo, pedúnculo delgado, terete, 4-6 cm de largo, brácteas del pedúnculo 1-2, acuminadas, conduplicadas, 1.3-4.5 cm de largo. **Flores** 22-80, simultaneas, resupinadas, de color verde y blanco, sin datos de fragancia. **Brácteas florales** mucho más cortas que el ovario, triangulares, acuminadas, gradualmente más pequeñas hacia el ápice, 1.7-7 mm de largo. **Ovario** delgado, terete, no inflado, escasamente verrugoso, 7-22 mm de largo. **Sépalos** extendidos, libres, obovados, agudos, margen entero, carnosos, el dorso escasamente verrugoso, 3-4 nervados, 6.3-6.8 x 2.0-3.1 mm; los **laterales** oblicuos. **Pétalos** algo reflexos, filiformes, ápice dilatado, obtuso, margen eroso hacia y en el ápice, membranáceos, 1-nervados, 4.6-7.0 x 0.6 mm. **Labelo** unido a la columna, trilobado, cordado en la base, tan ancho entre los lóbulos apicales como entre los laterales, 3.5-4.8 x 5.8-7.0 mm; bicalloso, los callos alargados, apenas llegan al istmo, laminares, triangulares cuando vistas de lado; disco cinco carinado, las teres carinas centrales prominentes, laterales progresivamente más bajas y cortas, la central llegando hasta el seno apical; lóbulos laterales suborbiculares, redondeados, margen irregular, 2.6 x 2.6 mm; lóbulo medio bifurcado, los lobos falcados, ápice redondeado, margen entero, 2.8-3.0 x 1.3-1.6 mm. **Columna** delgada, recta, 5 mm de largo. **Clinandrio** reducido, margen entero. **Antera** ovoide, 4-locular. **Polinios** 4, tipo ala de pájaro, lateralmente fuertemente comprimidos, los interiores menores. **Rostelo** apical, hendido. **Lóbulos laterales del estigma** de 1/3 del largo de la cavidad estigmática. **Nectario** sin traspasar el perianto, no inflado, papiloso. **Cápsula** elipsoide, con el perianto persistente, 34 x 5.9 mm; pedicelo delgado, 10 mm de largo; cuello apical corto, 3 mm de largo.

Lithophytic, caespitose **herb. Roots** basal, fleshy, thin. **Stems** simple, cane-like, terete, straight. **Leaves** distributed throughout the stems, sheath tubular, smooth; blade narrowly elliptic, acuminate, margin entire. **Inflorescence** apical, paniculate, erect, peduncle terete. **Flowers** 22-30, simultaneous, resupinate, green and white. **Floral bracts** much shorter than the ovary, triangular, acuminate. **Ovary** thin, terete, scarcely verrucose. **Sepals** spreading, free, obovate, acute, fleshy, dorsally scarcely verrucose, 3-4 veined. **Petals** filiform, apex dilated, obtuse, apical margin erose, 1-veined. **Lip** three-lobed, cordate at base, equally wide at the lateral and midlobes; bicallose, calli elongate, barely reaching the isthmus, laminar and triangular when seen from the side, disc five-carinate, the three central keels prominent, the median keel longer and higher, the laterals lower and shorter; lateral lobes suborbicular, rounded, margin irregular; midlobe bifurcate, the lobes falcate, rounded. **Column** thin, straight. **Pollinia** 4, bird-wing type, strongly flattened, the inner pair reduced. **Clinandrium** reduced, entire. **Nectary** not surpassing the perianth, papillose. **Capsule** ellipsoid, with a thin, long pedicel, apical neck short.

OTHER SPECIMENS: ECUADOR: Sucumbios: El Carmelo, *Kuhn et al. 151,* SEL! km 40 from El Carmelo to La Bonita, *Løjtnant et al. 11918,* AAU!

DISTRIBUTION AND ECOLOGY: Known only from three specimens, from northern Ecuador, near the Colombian border, on the eastern slope of the Andes, at 2100-2350 m altitude. Flowering in February, April and May, fruiting in February.

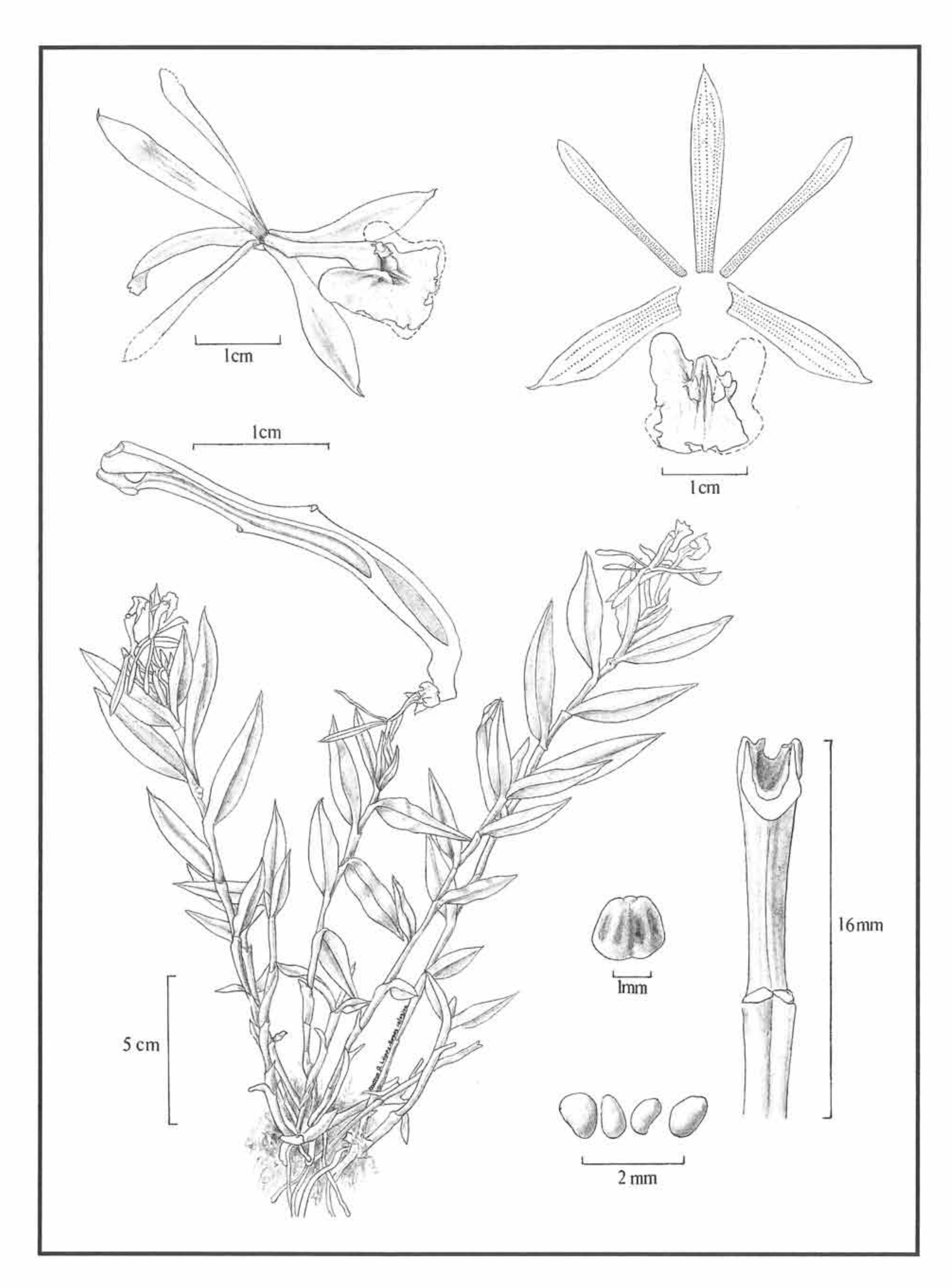
RECOGNITION: *Epidendrum sucumbiense* belongs to the paniculatum group, recognized by the caespitose habit, cane-like stems, paniculate inflorescence, filiform petals, four-lobed lip and bird-wing type pollinia. This species has green and white colored simultaneous flowers, with two prominent, triangular, laminar calli, and 6.3-6.8 mm long sepals. It is similar to *Epidendrum parviflorum* whose sepals are smaller, 4-5 mm long. *Epidendrum poeppigii* Hágsater has longer leaves, 9-17 cm long. *Epidendrum patulipetalum* Schltr. has narrower leaves, less than 8 mm wide, the column arched upwards, and smaller flowers. *Epidendrum agoyanense* Hágsater & Dodson has a somewhat similar habit, but leaves are wider, 2.5-3.5 cm wide, flowers are larger (sepals 9-11 mm long) and the apical lobes much reduced. *Epidendrum yungasense* Rolfe has flowers about the same size but much thinner, the column slender, and the lip is spotted with purple.



CONSERVATION STATUS: DD. Data deficient.

ETYMOLOGY: In reference to Sucumbios, the province of Ecuador where the localities of Santa Bárbara and El Carmelo are located.

Authors: E. Hágsater & C. H. Dodson **Illustrator: R. Jiménez M.** **Editors: E. Hágsater & L. Sánchez S.**
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EPIDENDRUM SUINII Hágsater & Dodson

Plate 490

EPIDENDRUM SUINII Hágsater et Dodson, *sp. nov.*

Type: ECUADOR: Morona-Santiago: S. J. Gualaquiza, 3°24'40" S, 78°44'32" W, 1700 m, 4 May 1996, ***L. Suin 120.*** Holotype: QCNE! (illustration voucher).

Epidendro cuchibambae F. Lehm. & Kraenzl. affine sed labello subquadrato, auriculis posticis brevioribus minoribusque respectu labelli magnitudine, petalis latioribus trinervatis, nervis longitudinem quasi totam attingentibus divergens.

Hierba epífita, cespitosa, 14-25 cm de alto. **Raíces** basales, 1 mm grosor. **Tallos** tipo caña, erectos, sencillos, algo lateralmente comprimidos, 10-19 cm de largo. **Hojas** 6-10, distribuidas a todo lo largo del tallo; vainas tubulares algo lateralmente comprimidas, 10.5-2.0 x 1.7-3.2 mm; lámina oblicuamente lanceolada, ápice diminutamente bilobado y aristado, los lóbulos a su vez acuminados, color verde; progresivamente más grandes excepto por la apical, 10-53 x 0.4-1.2 cm. **Espata** una o ninguna, larga, angosta, acuminada; 17 x 3 mm; la espata junto con las brácteas forman una estructura zigzag progresivamente más pequeña (no se alcanza distinguir claramente cúal sí hay brácteas del pedúnculo sin flores, en total 3-5 brácteas). **Inflorescencia** apical, del tallo maduro, dística, florece una sola vez, pedúnculo 5 mm de largo. **Brácteas florales** acuminadas, conduplicadas, 9-20 mm de largo. **Flores** 1-3, sucesivas, una o dos a la vez, no resupinadas, verde pálido tornándose amarillenta, fragancia no registrada. **Ovario** triquetro, arqueado en la base, formando una vesícula ventral cerca del ápice, 11-15 mm de largo. **Sépalos** extendidos, angostamente oblanceolados, agudos, margen revoluto, los laterales algo falcados, conados a la columna en la base, 5-nervados (los laterales menores), 23-24 x 3.0-3.5 mm. **Pétalos** extendidos, linear oblanceolados, agudos, 3-nervados, 22 x 2.5 mm. **Labelo** unido a la columna, profundamente cordado, subcuadrado, ligeramente más estrecho arriba de la mitad, ápice mucronado, 10-13 x 8-13 mm; bicalloso, los callos laminares; lóbulos laterales retrorsos, redondeados. **Columna** recta, dorsalmente 13-15 mm de largo. **Clinandrio** reducido, entero. **Rostelo** apical, hendido. **Lóbulos laterales del estigma** prominentes, de una tercera parte de largo de la cavidad estigmática. **Antera** ovoide, 4-locular. **Polinios** 4, subiguales, lenticulares, lateralmente comprimidos. **Nectario** profundo, penetrando algo menos de la mitad del ovario, no ornamentado. **Cápsula** no vista.

Caespitose, epiphytic **herb**. **Roots** thin. **Stems** cane-like, somewhat laterally compressed. **Leaves** 6-10, distributed throughout the stem, unequal, progressively larger except for the apical; **blade** obliquely lanceolate, apex bilobed and aristate, the lobes acuminate. **Spathe** one or none, long, narrow, acuminate. **Inflorescence** from the mature stem, distichous, peduncle short, rachis zigzag, with 3-5 bracts progressively shorter. **Flowers** 1-3, successive, one or two at a time, non-resupinate, light green. **Floral bracts** similar to the spathe but shorter, long, acuminate. **Ovary** arched near the base, triquetrous, apically somewhat inflated ventrally. **Sepals** narrowly oblanceolate, acute, margin revolute, laterals somewhat arched and connate to the column at the base, 5-veined. **Petals** linear-oblanceolate, acute, 3-veined. **Lip** united to the column, subquadrate, deeply cordate, somewhat narrowed above the middle, mucronate, bicallose. **Column** straight; clinandrium reduced, entire. **Anther** ovoid, 4-loculed. **Pollinia** 4, subequal, lentil-shaped, laterally compressed. **Nectary** deep, penetrating somewhat less than half the ovary.

OTHER SPECIMENS: ECUADOR: Zamora-Chinchipe: Romerillo Alto on Río Jamboe, 1500 m, *Dalessandro 713,* MO! (RPSC!) **Morona-Santiago:** La Pradera, 1400 m, cultivated by J. Portilla, Ecuagenera, *Hágsater 12374,* AMO!

OTHER RECORDS: ECUADOR: Upper Upano, 1600 m, *A. Hirtz 7212,* AMO (slide)!

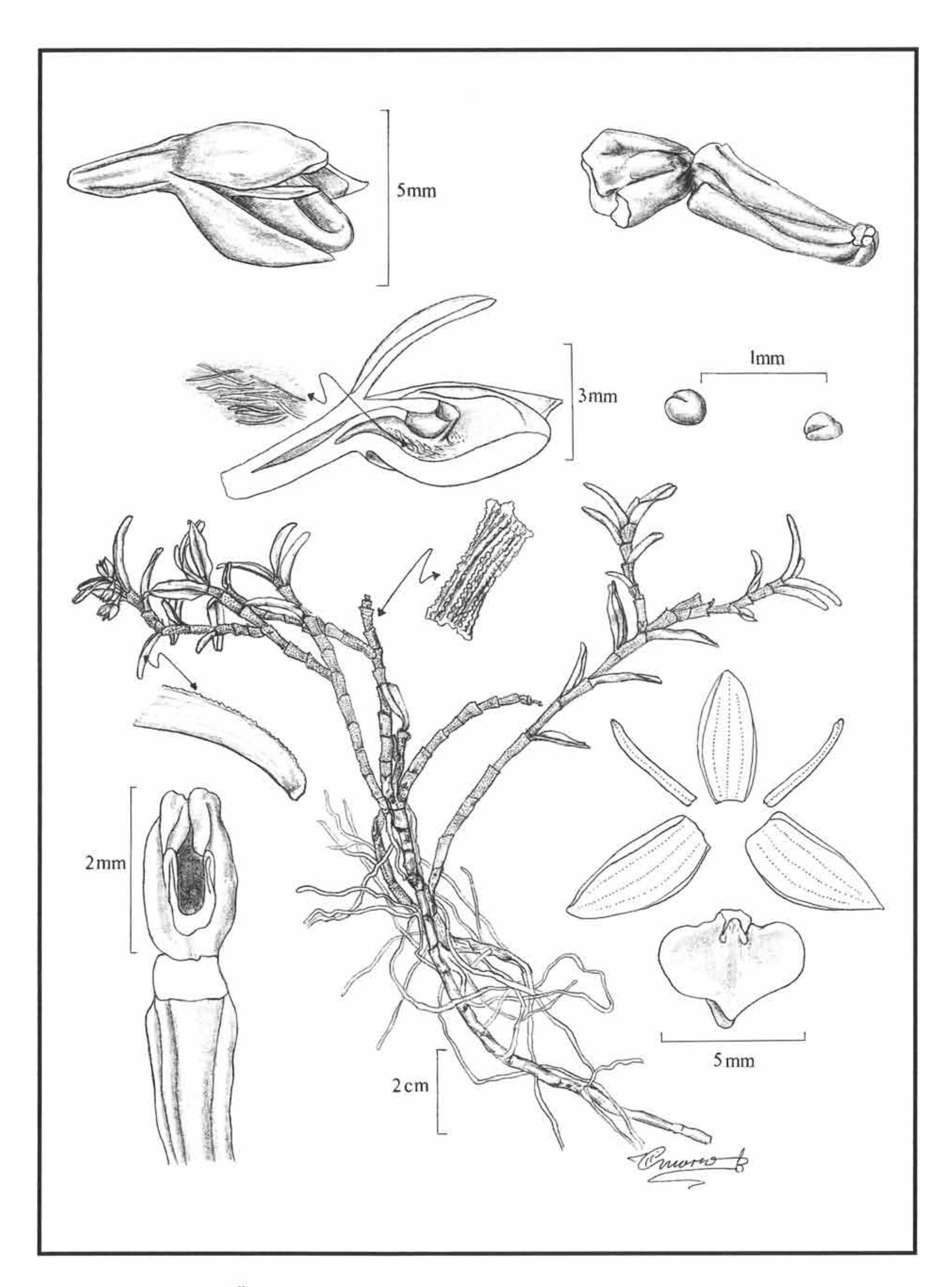
RECOGNITION: *Epidendrum suinii* belongs to the cuchibambae group and is recognized by the caespitose habit, simple stems, oblique leaves and 1-3 large, successive, flowers from a distichous rachis with large bracts, with a somewhat square lip deeply cordate, but the auricules small in relation to the rest of the lip. It is closely related to *Epidendrum cuchibambae* which has a wide, triangular, anchor-shaped lip, the posterior auricules much longer and proportionately larger in relation the the rest of the lip, nearly as long as the main body of the lip. Both are somewhat similar to *Epidendrum whittenii* Hágsater & Dodson, which also has prominent acuminate floral bracts and successive flowers, but the latter plant and flowers are smaller, the flowers white and do not have the retrorse lobes which give the anchor-like shape. The flowers of *E. suinii* are somewhat similar to those of *Epidendrum batesii* Dodson, but that species produces branching stems and the lip is smaller, and suborbicular in overall shape.



DISTRIBUTION AND ECOLOGY: Found along the eastern slopes of the Andes in southern Ecuador, epiphytic, 1400-1700 m altitude. Flowering in April-May.

CONSERVATION STATUS: DD. Data deficient.

ETYMOLOGY: In honor of Linder Suin, student collector of the Universidad del Azuay, who collected the type and has a strong interest in orchids and their conservation. Mr. Suin lives in the Parroquia Amazonas, on the Río Cuyes, Cantón Gualaquiza.



EPIDENDRUM TORRAËNSE Hágsater & Silverstone

Plate 491

EPIDENDRUM TORRAËNSE Hágsater et Silverstone, *sp. nov.*

Type: COLOMBIA: Chocó: San José del Palmar, Cerro del Torrá, vertiente oriental, mesa abajo de cumbre, 2500-2550 m, 13 agosto 1988, ***Philip A. Silverstone-Sopkin, N. Paz, R.T. González, J.E. Ramos, L.H. Ramos, A. Henao 4358.*** Holotype: CUVC. Isotypes: AMO! (illustration voucher), MO.

Epidendro rhodantho Hágsater & Dodson similare sed floribus minoribus et minus apertis, labello omnino columnam amplectenti et occultanti, columna recta ad apicem rotundata differt.

Hierba epífita, 5-16 cm de alto. **Raíces** de los entrenudos basales, delgadas, hasta 1 mm de grosor. **Tallos** teretes, ramificados cerca del ápice de los tallos, los principales 7-12 x 0.2 cm, las ramificaciones más cortas, 1.5-3.7 x 0.12-0.15 cm. **Hojas** distribuidas a todo lo largo de los tallos, subcoriáceas; vaina tubular, estriada y verrugosa, hasta 1.6 cm de largo; lámina angostamente oblonga a lanceolada, ápice desigualmente bilobado, margen irregularmente eroso-denticulado, haz verde oscuro, envés verde claro, 6-16 x 2.4-4.0 mm, las de las ramificaciones progresivamente más grandes, pero aparentemente hasta tan grandes como las de los principales. **Espata** ausente. **Inflorescencia** apical, de los tallos principales y de las ramificaciones, florece una sola vez, racemosa; pedúnculo corto, terete. **Bráctea floral** más corta que el ovario, triangular, obtusa, dorsalmente verrugosa, ca. 1.5 mm de largo. **Flores** 1-3, aparentemente sucesivas y no resupinadas, sépalos rojo violeta o blancos teñido de rojo violeta, pétalos blancos, labelo con manchas rojo violetas. **Ovario** corto, grueso, no inflado, 4 mm de largo. **Sépalos** entreabiertos, carnosos, elípticos, cóncavos, 3-nervados, 3.5-4.0 x 1.6-1.7 mm; el dorsal obtuso, los laterales agudos. **Pétalos** entreabiertos, lineares, 1-nervados, 3 x 0.3 mm. **Labelo** unido a la columna, entero, transversalmente elíptico al extenderse, obtuso, apiculado, carnoso, menudamente pubescente alrededor y en la base del callo, abrazando la columna en posición natural, 2.8 x 3.7 mm; bicalloso, callos cortos; sin quillas. **Columna** ligeramente doblado en la base con respecto del ovario, recta, ápice redondeado, 2.2 mm de largo. **Clinandrio** reducido, entero. **Antera** no vista. **Polinios** 4, obovoides, parcialmente fusionados. **Rostelo** apical, hendido. **Nectario** apenas traspasando el perianto, pubescente frente a la cavidad estigmática, pubescencia larga. **Cápsula** inmadura fusiforme, 7.5 x 2 mm.

Epiphytic **herb**. **Roots** thin, from the basal internodes of the main stems. **Stems** terete, mature stems branching. **Leaves** distributed throughout, subcoriaceous; sheath tubular, striated and verrucose; blade narrowly oblong to lanceolate, apex unequally bilobed, margin irregularly denticulate. **Spathe** absent. **Inflorescence** apical, from the main stems and the branches, racemose, flowers only once. **Floral bracts** triangular, dorsally verrucose, shorter than the ovary. **Flowers** 1-3, apparently successive and not resupinate, sepals red-violet to white tinged red-violet, petals white, lip spotted with red-violet. **Ovary** terete, not inflated. **Sepals** elliptic, obtuse or acute, 3-veined, fleshy. **Petals** linear, 1-veined. **Lip** united to the column, entire, transversely elliptic, obtuse, apiculate, embracing the column in natural position, minutely pubescent at the base; bicallose, calli short. **Column** slightly bent at the base with respect to the ovary, straight, apex rounded. **Clinandrium** short, entire. **Pollinia** 4, obovoid, half-fused. **Nectary** slightly surpassing the perianth, pubescent in front of the stigmatic cavity, the pubescence long.

OTHER SPECIMENS: COLOMBIA: Chocó: Cerro del Torrá, *Silverstone-Sopkin 1785* CUVC! MO! *Silverstone-Sopkin 4502*, CUVC! *Silverstone-Sopkin 4634*, CUVC! MO!

DISTRIBUTION AND ECOLOGY: COLOMBIA: Chocó: known only from the Cerro del Torrá, an isolated mountian west of the Serranía de los Paraguas (a branch of the Cordillera Occidental), west of El Cairo (Dept. Valle), primary cloud forest, at 2500 m altitude. Flowering in August.

RECOGNITION: *Epidendrum torraënse* belongs to the macrostachyum group, rhombochilum subgroup and is distinguished by the branching stems with striated and verrucose sheaths, short simple inflorescence and small white flowers tinged red-violet, sepals 3.5-4 mm long, with the short column practically completely covered by the lip in natural position. It is closely related to *E. chrysanthum* Hágsater & Dodson, which has yellow-bronze flowers, sepals 8.5 mm long, and the apex of the 5 mm-long column barely covered by the lip. *Epidendrum rhodanthum* Hágsater & Dodson is sympatric with and quite similar in size to *E. chrysanthum*, but the flowers are white tinged with old-rose color, and the lip proportionately longer in relation to the column. *Epidendrum elleanthoides* Schltr., though quite similar florally, has a toothed column and much shorter leaves (40-70 x 3.5-5 mm), with a very thin and branched peduncle of the inflorescence, being thus closer to *E. guacamayense* Hágsater & Dodson.

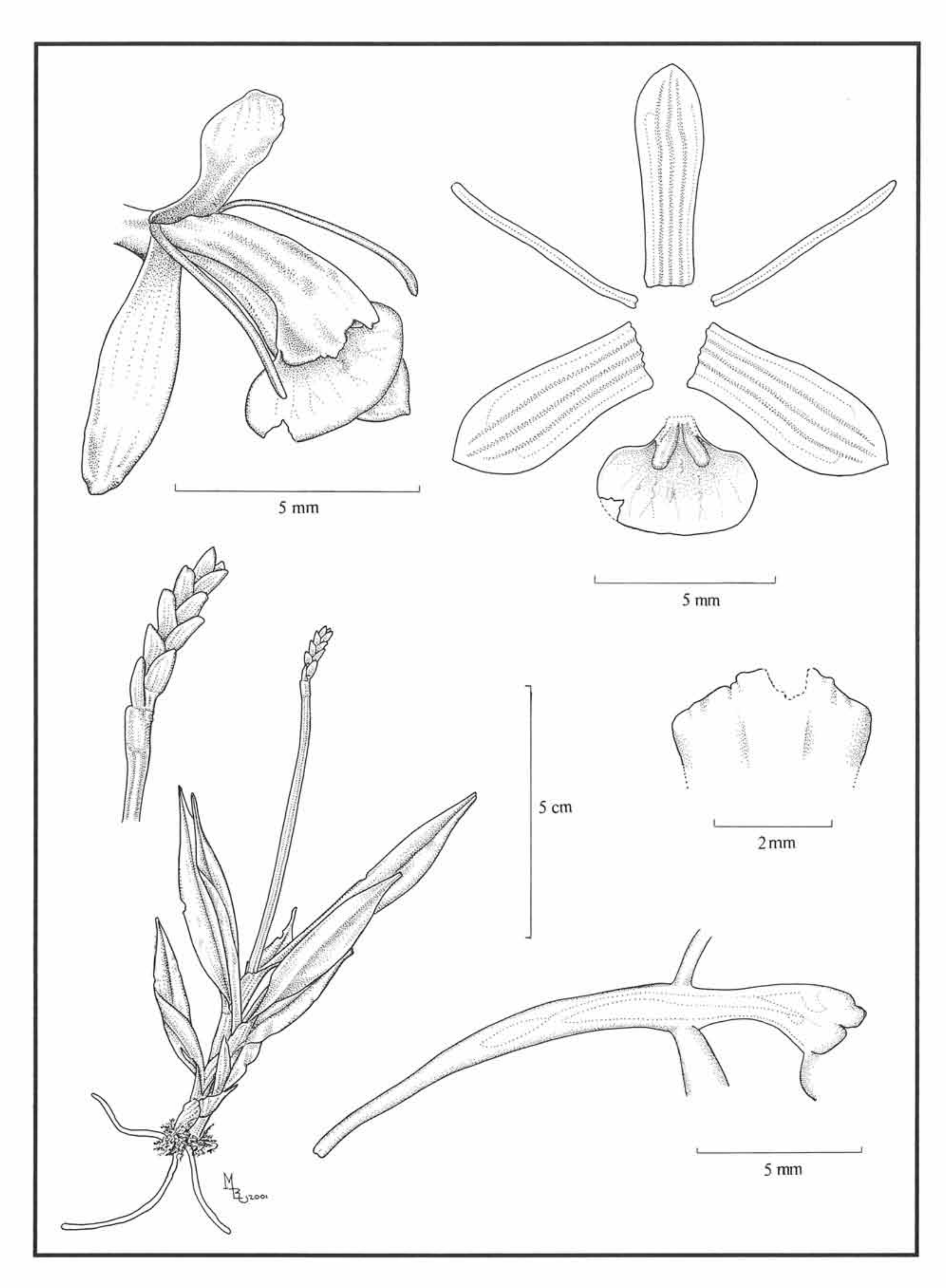
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CONSERVATION STATUS: DD (Data deficient).

ETYMOLOGY: Named after the Cerro del Torrá, where the various specimens have been collected.

NOTE: In the description of *E. rhodanthum* (Icones Orch. t. 378. 1999), the sepals of *E. rhombochilum* were mistakenly noted as being 4.5 mm long; they are 6.5-8.5 mm long.

Authors: E. Hágsater & P. A. Silverstone-Sopkin **Illustrator: M. López R.** **Editors: E. Hágsater & L. Sánchez S.**
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EPIDENDRUM TRANSVERSELLIPTICUM Hágsater

Plate 492

EPIDENDRUM TRANSVERSELLIPTICUM Hágsater, *sp. nov.*

Type: PANAMA: Cerro Colorado, border of Chiriquí and Bocas del Toro provinces; along intersection of Bocas Road with main ridge road, 15.4 km from Chami along ridgeroad, 1400-1700 m, 24 Oct. 1977. ***J. P. Folsom 6101.*** MO! (illustration voucher).

Epidendro jefeallenii Hágsater & García-Cruz simile sed habitu minore, sepalis obtusis, labello trasverse elliptico ad marginem integro, clinandrio prominenti emarginato discrepans.

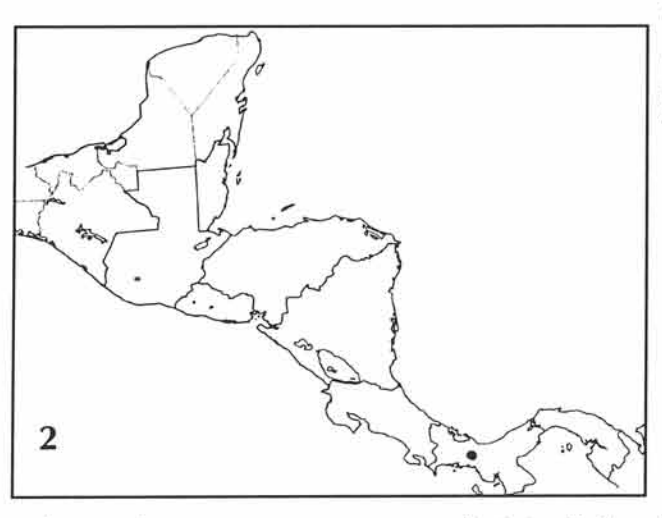
Hierba epífita, cespitosa, erecta, pequeña, de 11 cm de alto. **Raíces** basales, carnosas, delgadas, 0.3-0.6 mm de grosor. **Tallos** sencillos, tipo caña, ancipitosos, 2.5-3.5 x 0.23-0.3 cm. **Hojas** 3-4, distribuidas a lo largo del tallo, alternas, desiguales, gradualmente más grandes hacia el ápice; vainas tubulares, ancipitosas, estriadas, 6-11 mm de largo; lámina angostamente elíptica, acuminada, margen entero, 1.7-6 x 0.5-1 cm. **Espata** ausente. **Inflorescencia** apical, pluriracemosa, erecta, 7.4 cm de largo, pedúnculo ancipitoso, bialado, desnudo, 6 mm de largo, provisto de una bráctea apical semejante a las florales pero más grande, conduplicada, elíptica, redondeada, parcialmente imbricada con la primer bráctea floral, 6 x 1.3 mm. **Brácteas florales** más cortas que el ovario, elípticas, redondeadas, conduplicadas, imbricadas, 3 mm de largo. **Ovario** terete, no inflado, no ornamentado, 11 mm de largo. **Flores** 9, sucesivas, desarrollándose una a la vez, resupinadas, verdes, sin datos de fragancia. **Sépalos** extendidos, libres, oblongo oblanceolados, obtusos, margen entero, 5-nervados, 6 x 1.8-2.5 mm. **Pétalos** entreabiertos, libres, lineares, redondeados, 1-nervados, 6 x 0.3 mm. **Labelo** unido a la columna, entero, transversalmente elíptico, más ancho que largo, margen entero, 2.5 x 4 mm; bicalloso, callos prominentes, alargados; disco provisto de 3 quillas discontinuas incipientes. **Columna** corta, arqueada hacia el ápice, 5 mm de largo incluyendo el clinandrio. **Clinandrio** prominente, ocupando aproximadamente la cuarta parte de la longitud total de la columna, emarginado, margen irregular. **Antera** no vista. **Polinios** no vistos. **Rostelo** no visto. **Lóbulos laterales del estigma** pequeños. **Nectario** aparentemente penetrando ca. 1/3 del ovario. **Cápsula** no vista.

Small, caespitose, erect, epiphytic **herb. Roots** basal, fleshy, thin. **Stems** simple, cane-like, ancipitose, short. **Leaves** 3-4, unequal, progressively larger, sheaths ancipitose; blade narrowly elliptic, acuminate, margin entire. **Inflorescence** apical, pluriracemose, erect, peduncle ancipitose, two-winged, nude, with raceme at the apex subtended by a conduplicate bract similar to the floral bracts but larger. **Floral bracts** shorter than the ovary, elliptic, rounded, conduplicate, imbricating. **Ovary** terete, not inflated. **Flowers** successive, one developing at a time, resupinate, green. **Sepals** spreading, free, oblong-oblanceolate, obtuse, margin entire, 5-veined. **Petals** partly spreading, free, linear, rounded, 1-veined. **Lip** united to the column, entire, transversely elliptic, margin entire, bicallose, the calli prominent, disc provided with 3 incipient, discontinuous keels. **Column** short, arched towards the apex. **Clinandrium** prominent, occupying about ¼ of the length of the column, emarginate, margin irregular. **Nectary** penetrating about 1/3 of the ovary.

OTHER SPECIMENS: None seen.

DISTRIBUTION AND ECOLOGY: Known only from the type, near the ridge of the intercontinental divide in western Panama, at 1400-1700 m altitude. Flowering in October.

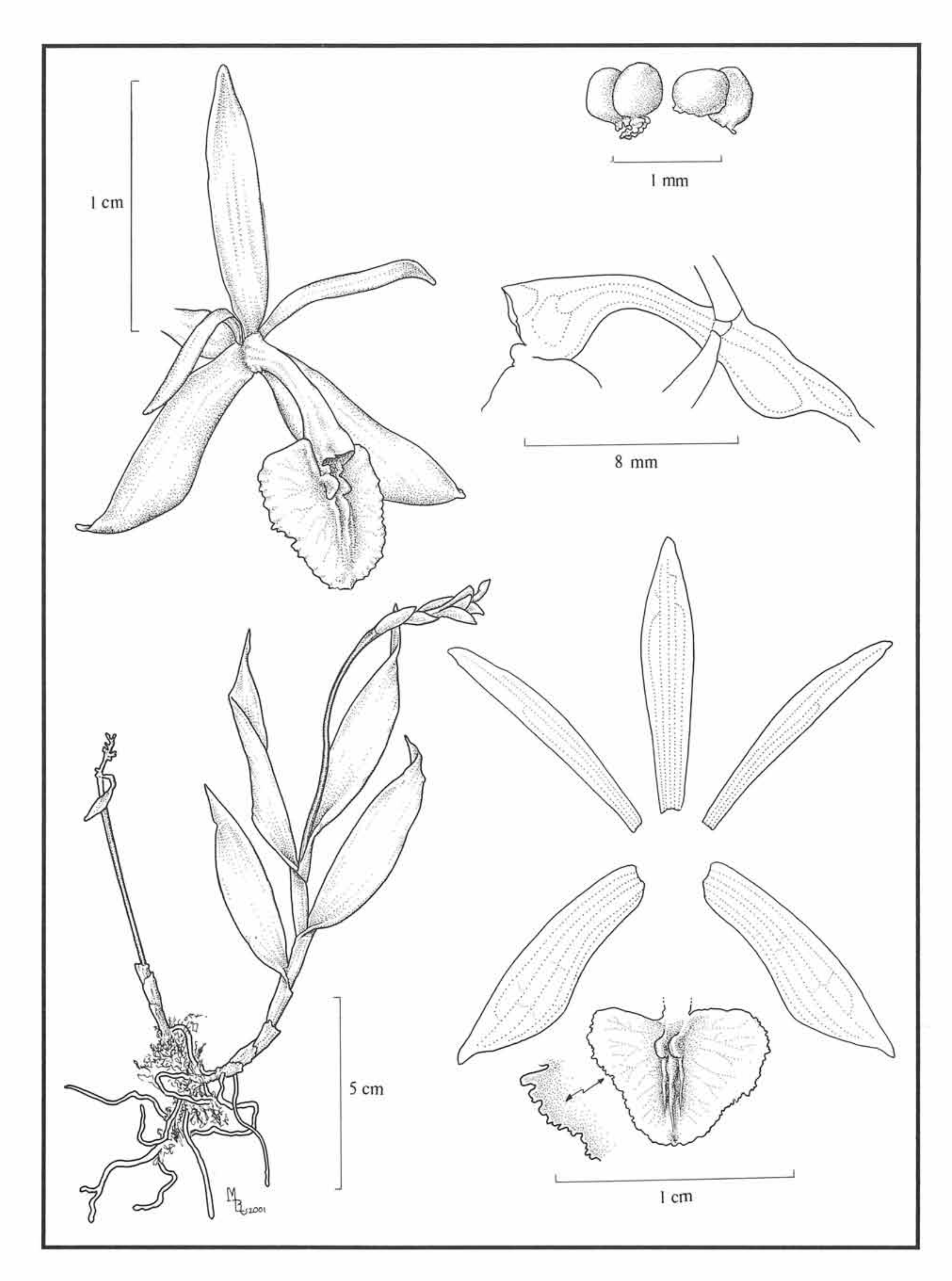
RECOGNITION: *Epidendrum transversellipticum* belongs to the allenii subgroup of the physinga group recognized by the caespitose habit, ancipitose stems, long, nude, two-winged peduncle and the raceme of imbricating bracts with flowers produced singly in succession. The species is recognized by the small habit, 3 mm long bracts, 6 mm long sepals, transversely elliptic, entire lip and the prominent, straight clinandrium. *Epidendrum jefeallenii* Hágsater & García-Cruz is much larger overall, the sepals 10-11 mm long, the column 8 mm long, and the cordiform, emarginate lip 4-5 x 5-6 mm in size. *Epidendrum maduroi* Hágsater & García-Cruz is still larger, with stems 20-30 cm long, with sepals 12-15 mm long, subreniform lip 6-8 mm wide and a short clinandrium. *Epidendrum panamense* Schltr. has an ovate, subcordate, acuminate lip and the ovary somewhat inflated into a vesicle.



CONSERVATION STATUS: DD. Data deficient.

ETYMOLOGY: From the Latin, transversely elliptic, in reference to the shape of the lip which characterizes this species.

Authors: E. Hágsater **Illustrator: M. López R.** **Editors: E. Hágsater & L. Sánchez S.**
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EPIDENDRUM TRANSVERSOVATUM Hágsater & Dodson

Plate 493

EPIDENDRUM TRANSVERSOVATUM Hágsater et Dodson, *sp. nov.*

Type: ECUADOR: Esmeraldas: km 12, road from Lita to Alto Tambo, 750 m, 26 August 1987, ***C. H. Dodson, R. L. Dressler, N. Williams, & H. Hills 17345.*** Holotype: RPSC! (illustration voucher).

Epidendro allenii L. O. Williams similare sed petalis anguste ellipticis trinervatis, labello transverse ovato ad marginem eroso-dentato.

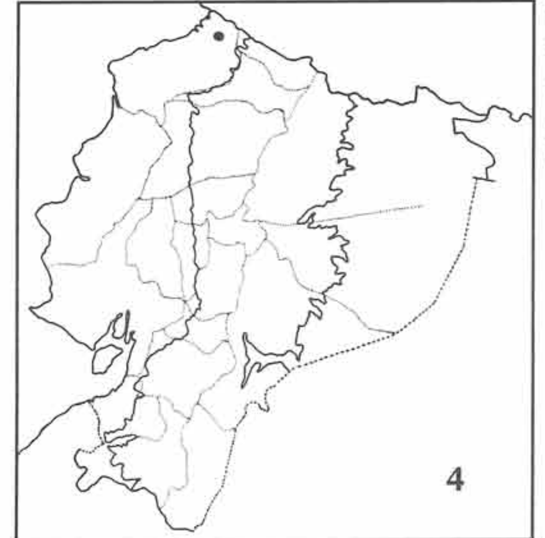
Hierba cespitosa, erecta, de 10-16 cm de alto. **Raíces** basales, carnosas, blancas, 1 mm de grosor. **Tallos** sencillos, tipo caña, ancipitosos, rectos, 3-5.5 x 0.2-0.35 cm. **Hojas** 2-4, distribuidas a lo largo de la mitad apical del tallo, desiguales, gradualmente más grandes hacia el ápice del tallo; vainas tubulares, ancipitosas, estriadas, 5-18 mm de largo; lámina angostamente elíptica, acuminada, con una quilla dorsal, margen entero, 5.3-6.7 x 1.3 cm. **Espata** ausente. **Inflorescencia** apical del crecimiento maduro, racemosa, erecta, 6.5-9 cm de largo; pedúnculo, ancipitoso, bialado, de lados paralelos, desnudo, con una bráctea cerca del ápice semejante a las florales pero más grande, conduplicada, elíptica, obtusa, 13 x 3.5 mm. **Brácteas florales** tan largas como el ovario, elípticas, obtusas, conduplicadas, imbricadas, 8.5-9.5 x 2.8-4.0 mm. **Ovario** terete, inflado ventralmente formando un vesícula ovoidea en la mitad apical del ovario, no ornamentado, 6 mm de largo. **Flores** 5, sucesivas, produciéndose una a una, de color verde pálido; sin datos de fragancia. **Sépalos** extendidos, libres, angostamente obovados, agudo redondeados, margen entero, 5-nervados, 1.08-1.2 x 2.4-3.2 mm, los laterales oblicuos. **Pétalos** extendidos y arqueados hacia adelante, libres, linear elípticos, agudo redondeados, margen entero, 3-nervados, 1.13 x 1.4 mm. **Labelo** unido a la columna, convexo en posición natural, entero, transversamente ovado, margen eroso dentado, 6.0-8.0 mm; bicalloso, los callos lateralmente comprimidos; tricarinado, la carina intercallosa, larga, llegando al ápice del labelo, delgada. **Columna** arqueada, 8 mm de largo. **Clinandrio** corto, casi recto, margen entero. **Antera** no vista. **Polinios** 4, obovoides, lateralmente comprimidos. **Rostelo** apical hendido. **Lóbulos laterales del estigma** no vistos. **Nectario** penetrando más de la mitad del ovario, inflado, formando una vesícula prominente. **Cápsula** no vista.

Caespitose, erect **herb. Roots** basal, fleshy. **Stems** simple, cane-like, ancipitose, straight. **Leaves** distributed throughout the apical half of the stem, unequal, gradually larger; sheaths tubular, ancipitose, striated; blade narrowly elliptic, acuminate, margin entire. **Inflorescence** apical, racemose, erect; peduncle ancipitous, nude, sides parallel, with a subapical bract similar to the floral bracts but larger. **Floral bracts** as long as the ovary, elliptic, obtuse, conduplicate, imbricate. **Flowers** successive, pale green. **Sepals** spreading, narrowly obovate, narrowly rounded, 5-veined. **Petals** spreading and arching forward, linear-elliptic, narrowly rounded, 1-veined. **Lip** convex, entire, transversely ovate, margin erose-dentate; bicallose, the calli laterally compressed, with three long keels running down the middle. **Column** straight. **Clinandrium** short, straight, margin entire. **Nectary** penetrating more than half the ovary, inflated, forming a prominent vesicle.

OTHER SPECIMENS: None seen.

DISTRIBUTION AND ECOLOGY: Known only from the type in northwestern Ecuador, in the Pacific lowland montane pluvial forest at 750 m altitude, epiphytic. Flowering in August, probably throughout the year.

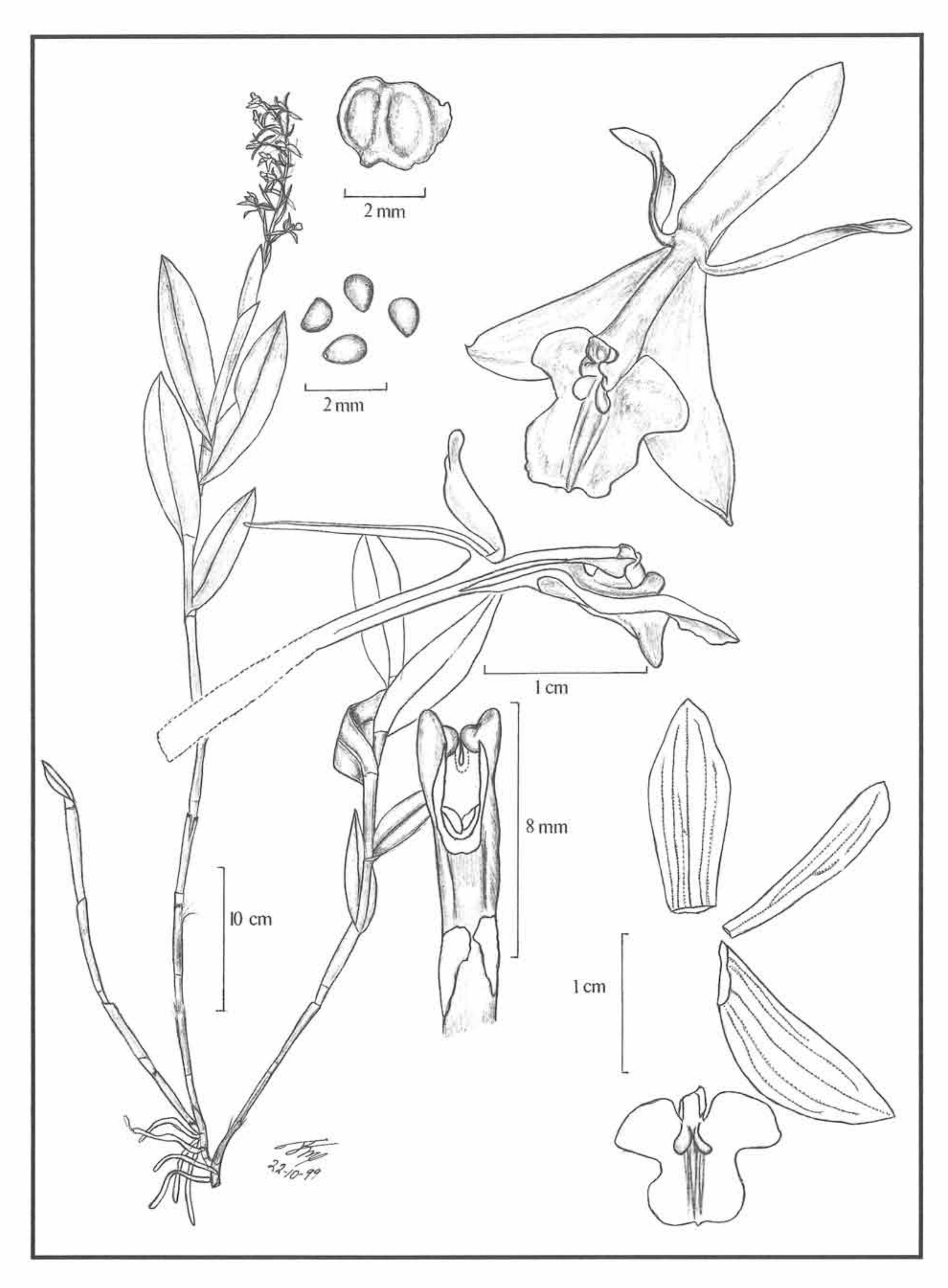
RECOGNITION: *Epidendrum transversovatum* belongs to the allenii subgroup of the physinga group, distinguished by the caespitose habit, ancipitous stems, apical inflorescence, the apical peduncle ancipitous to the degree of being two-winged, the raceme subtended by a conduplicate bract at the apex of the peduncle, the floral bracts imbricate, flowers successive, one at a time, frequently with a prominent clinandrium. The species is recognized by the transversely ovate lip, the narrowly elliptic, 3-veined petals and the prominent swollen vesicle at the apical half of the ovary. *Epidendrum allenii* L. O. Williams has longer, wider leaves, linear petals, and a subreniform to obovate, obscurely three-lobed lip, the margin entire. *Epidendrum lankesteri* Ames has much larger plants, a slender ovary, linear, 1-veined petals, a subrotund lip, obscurely lobed near the base, and the column 11 mm long. *Epidendrum panamense* Schltr. is similar but has longer leaves, narrowly linear petals, and floral bracts shorter than the ovary. *Epidendrum aristatum* Ackerman & Montalvo with aristate sepals, filiform petals, a reniform lip, and prominent calli arching within the long clinandrium, is found in the same locality.



CONSERVATIONS STATUS: DD. Data deficient.

ETYMOLOGY: From the Latin *transverse*, transverse, and *ovatis*, ovate, in reference to the transversely ovate lip, which distinguishes this species.

Authors: E. Hágsater & C. H. Dodson **Illustrator: M. López R.** **Editors: E. Hágsater & L. Sánchez S.**
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EPIDENDRUM TRILOBOCHILUM Hágsater & Dodson

Plate 494

EPIDENDRUM TRILOBOCHILUM Hágsater et Dodson, *sp. nov.*

Type: Ecuador: Napo: km 57, road Quito to Baeza, 7 km east of Papallacta, 2700 m, 17 Nov. 1985, ***Dodson & Embree 16212.*** Holotype: RPSC! (illustration voucher).

Epidendro trulliformi Garay & Dunsterville simile sed floribus minoribus et labello manifeste trilobato differt.

Hierba epífita y terrestre, subcespitosa, 28-80 cm de alto. **Raíces** de la base de los tallos, sencillas, 1-3 mm de grosor. **Tallo** tipo caña, recto, terete abajo, lateralmente comprimido arriba, sencillo, 15-52 x 0.3-0.9 cm; el nuevo tallo se produce a los 3-4 cm de la base del anterior. **Hojas** 4-6, equidistantes, distribuidas a lo largo de la mitad apical del tallo; vainas tubulares, estriadas en seco, 1-7 x 0.5-0.9 cm; lámina elíptica, aguda, margen entero y ligeramente revoluto, carinada, 1.5-14.5 x 1.2-4.0 cm. **Espatas** 1-2, angosta, aguda, conduplicada, abierta de un lado hacia el ápice, cubriendo todo el pedúnculo, 6-11.3 x 0.7-1.1 cm. **Inflorescencia** apical, de tallo maduro, florece una sola vez, racemosa a paniculada, arqueada, ca. 13-27 cm de largo; pedúnculo 8-13 cm de largo, ocasionalmente provista de 2 brácteas semejantes a la espata, angostas, largamente acuminadas, 3.5-4.5 cm de largo. **Brácteas florales** más largas a mucho más cortas que el ovario, linear lanceoladas, acuminadas, 3-28 mm de largo. **Flores** 12-20, simultáneas, resupinadas, verdes a verde amarillentas, con tintes rojo pardos, labelo pardo tenue. **Ovario** terete, no ornamentado, 13-35 mm de largo. **Sépalos** extendidos, libres, elípticos, agudos, margen extendido, no ornamentados, membranáceos, 5-nervados, 13-15 x 6 mm; los laterales brevemente connados a la columna, falcados,. **Pétalos** extendidos, angostos oblanceolados, obtusos, ligeramente falcados, margen extendido, margen entero, membranáceos, 1-nervados, ramificados arriba, 12-13 x 3 mm. **Labelo** unido a la columna, trilobado, base cordada, 9 x 16 mm; bicalloso, callos lateralmente comprimidos; lóbulos laterales suborbiculares, obtusos, el lado apical subrecto, margen entero, 3 x 4.7 mm; lóbulo medio cuneado, redondeado, el margen apical ligeramente emarginado y apiculado, 5 x 7 mm. **Columna** recta, gruesa, 7-8 mm de largo. **Clinandrio** reducido, entero. **Antera** reniforme, con una quilla roma al frente. **Polinios** 4, obovoides, lateralmente comprimidos. **Rostelo** apical, hendido. **Lóbulos laterales del estigma** pequeños, de ¼ del largo del estigma. **Nectario** apenas traspasando el perianto. **Cápsula** no vista.

Epiphytic and terrestrial, subcaespitose **herb**. **Stem** erect, cane-like, laterally compressed above, produced near the base of the previous stem. **Leaves** 4-6, elliptic, acute, margin entire. **Spathes** narrow, acute. **Inflorescence** apical, racemose to paniculate, arcuate, flowering only once. **Floral bracts** longer to much shorter than the ovary. **Flowers** 12-20, simultaneous, resupinate, green to yellowish green with a red-brown flush. **Ovary** thin. **Sepals** elliptic, acute, 5-veined, the laterals shortly connate to the base of the column. **Petals** narrowly oblanceolate, obtuse, margin entire, 1-veined, branched above. **Lip** 3-lobed, cordate at the base; bicallose, calli laterally compressed; lateral lobes suborbicular, the apical margin somewhat straight, margin entire; midlobe cuneate, slightly emarginate and apiculate. **Column** straight. **Clinandrium** reduced, entire. **Rostellum** apical, slit. **Nectary** somewhat surpassing the perianth.

OTHER SPECIMENS: COLOMBIA: Nariño: Volcán Doña Juana, 3000 m, *Ewan 16620*, US! **ECUADOR: Carchi:** Maldonado, 3150-3250 m, *Holm-Nielsen et al. 5850*, AAU! **Imbabura:** Apuela, 2500 m, *Luer et al. 3340*, SEL!

RECOGNITION: *Epidendrum trilobochilum* belongs to the trulliforme subgroup of the excisum group and has simple stems, slightly separated at the base, 4-5 leaves, 1-2 narrow, acute spathes, usually 1-branched inflorescence, the floral bracts longer to much shorter than the ovaries, resupinate flowers with a deeply 3-lobed lip, the lateral lobes slightly smaller than the cuneate midlobe which is slightly emarginate and mucronate. It has been confused with *E. ochriodes* Lindl. from Venezuela, a synonym of *E. klotzscheanum* Rchb.f., which has much larger, many-leaved stems, and fleshier flowers with narrowly elliptic petals, and a narrowly rectangular midlobe of the lip. The plants are similar to but larger than *E. fruticetorum* Schltr. which is smaller in habit, and has a clearly bilobed midlobe, and erose margins. *Epidendrum trilobochilum* grows (at least in Ecuador) in the same area as *E. trulliforme* which is recognized by the trullate lip, and somewhat larger and half-open flowers, the sepals being 17-18 mm long, and the flowers opening in succession.

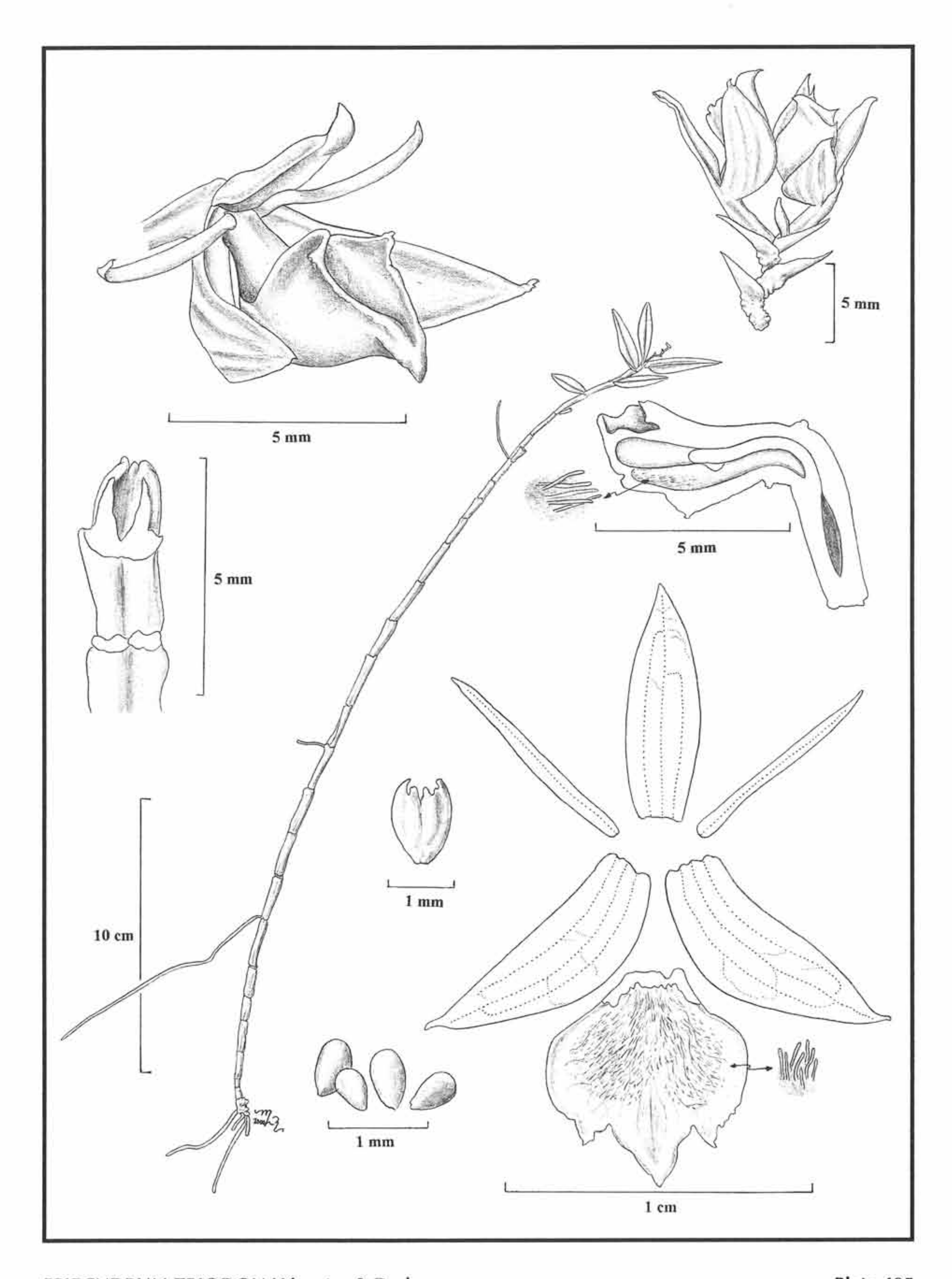
DISTRIBUTION AND ECOLOGY: From the both sides of the Andes in northern Ecuador and southern Colombia, epiphytic or on road embankments, between 2700-3250 m altitude. Flowering in May to December.

ETYMOLOGY: From the Greek, τρÊς- thrice, ιοβÒς- lobes and χεÃιος- lip, in reference to the 3-lobed lip which separates this species from *E. trulliforme*, which grows in the same area in eastern Ecuador.

NOTE: *E. reveloi* Hágsater & Dodson has been recognized as a synonym of *E. trulliforme*. However, the illustration published with the original description of *E. reveloi* is now recognized as based on the type of *E. veroreveloi* Hágsater & Dodson published in this volume, which has smaller (sepals 15 mm), non-resupinate flowers, and an entire, oval lip.

5

Authors: E. Hágsater & C. H. Dodson **Illustrator: R. Jiménez M.** **Editors: E. Hágsater & L. Sánchez S.**
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EPIDENDRUM TRIODON Hágsater & Dodson

Plate 495

EPIDENDRUM TRIODON Hágsater et Dodson, *sp, nov.*

Type: ECUADOR: Pastaza: Rio Zuñag north of Rio Topo, 2600 m, 23 Feb. 1990, ***A. Hirtz et al. 4627.*** Holotype: QCNE! (illustration voucher). Isotype: RPSC

Epidendro guacamayensi Hágsater & Dodson simile sed foliis brevioribus carnosiorisbusque, labello ad apicem tridentato columnam amplectenti sed non superposito, ad marginem apicalem extrorsus deflexo recedit.

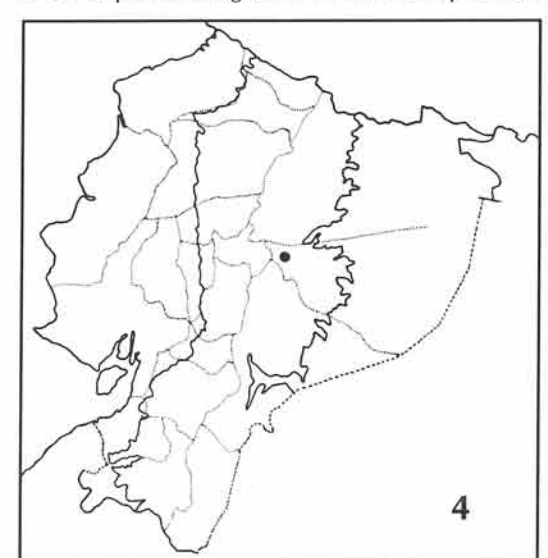
Hierba ramificada, 32 cm de alto. **Raíces** basales y de algunos entrenudos, delgadas, 0.5-0.7 mm de grosor. **Tallos** teretes, ramificados, el principal de 26 x 0.17-0.28 cm; las ramas, 8 x 0.13-0.19 cm. **Hojas** en el tallo principal no vistas, 6 en las ramificaciones, distribuidas a todo lo largo del tallo; vaina tubular, estriada y verrugosa, 1.0-1.8 x 0.13-0.28 cm; lámina lanceolada, ápice oblicuo, obtuso, carinada dorsalmente, rugosa, estriada en seco, margen crenulado, eroso, 1.5-3.0 x 0.5-0.6 cm. **Espata** ausente. **Inflorescencia** apical, paniculada, produciendo nuevos racimos, 13 mm de largo; pedúnculo corto, terete, delgado, rugoso, 4.5 mm de largo; provisto de una bráctea basal, triangular, aguda, 0.7 mm de largo; raquis en zigzag, rugoso. **Brácteas florales** casi tan largas como el ovario, triangulares, acuminadas, 3-3.5 mm de largo. **Flores** 7, sucesivas, 1-2 abiertas a la vez, dísticas; verde olivo, sin datos de fragancia. **Ovario** delgado, terete, no inflado, no ornamentado, 4 mm de largo. **Sépalos** entreabiertos, libres, elípticos, agudos, margen entero, 3-nervados, 7.7-8.6 x 2.4-3.0 mm; los **laterales** oblicuos. **Pétalos** extendidos, libres, linear lanceolados, acuminados, margen entero, 1-nervados, 7.1-7.4 x 0.4-0.6 mm. **Labelo** unido a la columna, trilobado, carnoso, suborbicular al extenderse, los lóbulos desiguales, el medio mayor, 6.9 x 6.5 mm; ecalloso, disco pubescente en casi toda su superficie excepto los bordes; lóbulos laterales semielípticos, agudos, margen apical irregular, en posición natural abrazando el ápice de la columna y las puntas vueltas hacia afuera, 2.2 x 4.2 mm; lóbulo medio triangular, agudo, margen carnoso, 2.1 x 2.5 mm. **Columna** gruesa, geniculada en la base respecto del ovario, ligeramente arqueada hacia arriba en la parte media apical, 5 mm de largo. **Clinandrio** reducido, entero. **Antera** ovoide, 4-locular. **Polinios** 4, obovoides, desiguales. **Rostelo** apical, hendido. **Lóbulos laterales del estigma** pequeños, de 1/4 del largo de la cavidad estigmática. **Nectario** penetrando a la altura del perianto, no inflado, no ornamentado. **Cápsula** no vista.

Branching **herb. Roots** thin, fleshy, from the base and scarce from several sheaths higher up the stem. **Stems** terete, branching. **Leaves** distributed throughout, sheath striated and verrucose; blade lanceolate, apex oblique, obtuse, striated when dry, rugose, apical margin crenulate, erose. **Inflorescence** apical, paniculate, producing new racemes, peduncle short and thin, rugose, rachis zigzag. **Floral bracts** nearly as long as the ovary, triangular, acuminate. **Flowers** distichous, successive, 1-2 open at a time, olive green. **Ovary** short, terete, thin. **Sepals** partly spreading, elliptic, acute, margin entire, 3-veined, laterals oblique. **Petals** spreading, linear-lanceolate, acuminate, margin entire, 1-veined. **Lip** three-lobed, fleshy, embracing the column without overlapping, the apices of the lateral lobes turned outwards, most of the surface pubescent except for the borders, ecallose; lateral lobes semi-elliptic, acute, apical margin irregular, midlobe triangular, margin fleshy, acute. **Column** thick, geniculate at the base in relation to the ovary, arching upwards at the apical half. **Clinandrium** reduced, entire. **Anther** ovoid, 4-celled. **Pollinia** 4, obovoid, unequal. **Nectary** penetrating as far as the perianth, unornamented.

OTHER SPECIMENS: None seen.

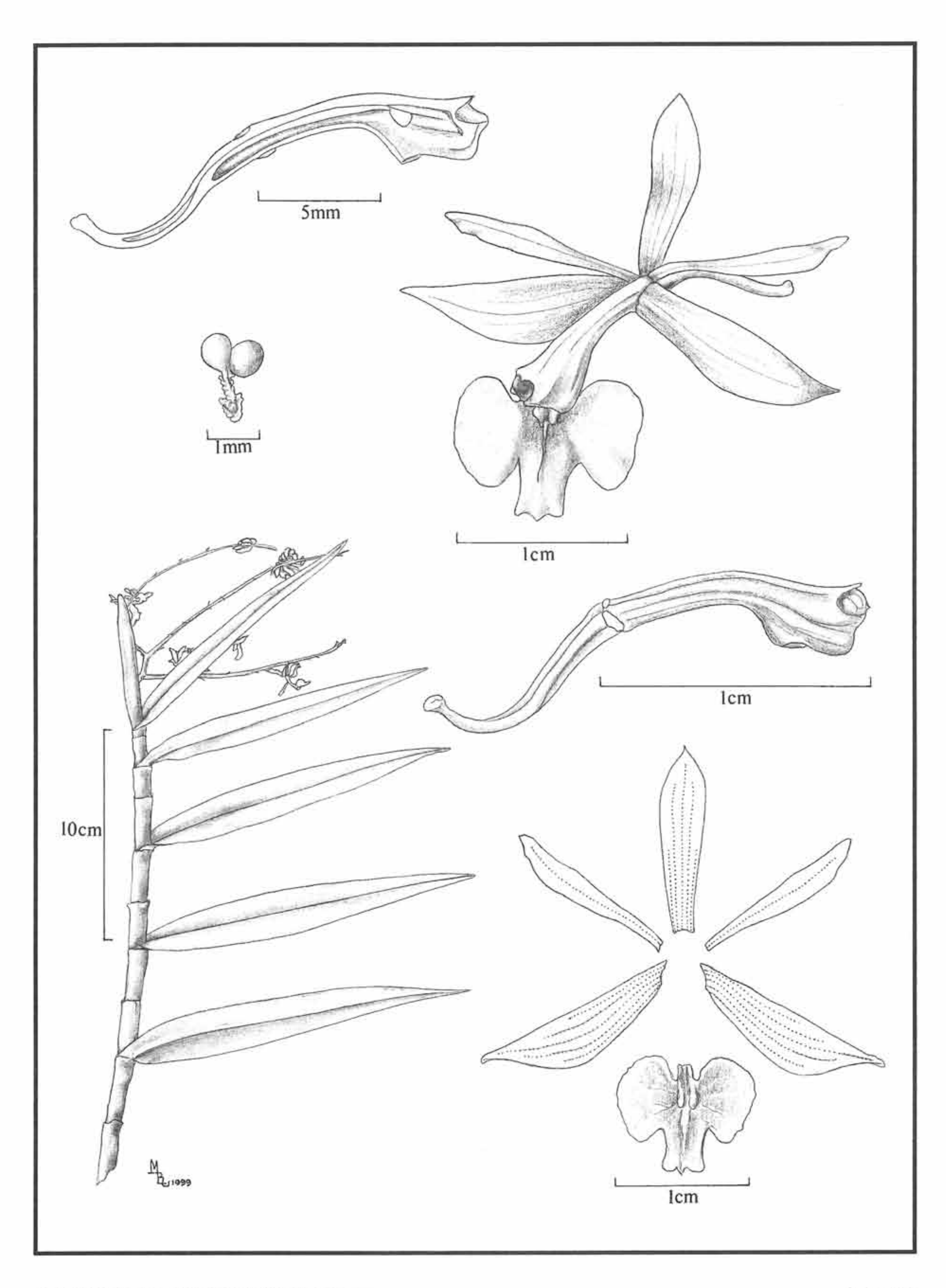
DISTRIBUTION AND ECOLOGY: Known only from the type, in the province of Pastaza, central Ecuador east of the Andes, at 2600 m altitude. Flowering in February.

RECOGNITION: *Epidendrum triodon* belongs to the elleanthoides group, guacamayense subgroup and is recognized by the branching stems, short, fleshy lanceolate leaves, paniculate inflorescence with successive distichous, olive-green flowers, the linear-lanceolate, acuminate petals and the three-dentate lip, puberulose inside and embracing the column without overlapping, with the three-pointed margins turned outwards. *Epidendrum guacamayense* Hágsater & Dodson has thin, longer, grassy leaves, and the lip ovate-reniform, rounded except for the apiculate apex, with the lateral lobes overlapping above the column. *Epidendrum thamnophilos* Hágsater has smaller flowers and longer leaves.



CONSERVATION STATUS: DD. Data deficient.

ETYMOLOGY: From the Greek, τρις three, and οδοντος, toothed, in reference to the three-toothed lip which separates this species from other similar ones



EPIDENDRUM URUBAMBAE Hágsater

Plate 496

EPIDENDRUM URUBAMBAE Hágsater, *sp. nov.*

Type: PERU: San Miguel, Urubamba Valley, 1800 m, ***Cook & Gilbert 921.*** Holotype: US! (illustration voucher).

Epidendro utcuyacuënsi Hágsater similare sed sepalis longioribus et angustioribus, inflorescentia paniculata ramis lateeralibus similibus divergens.

Hierba epífita, cespitosa, ca. 35 cm o más de alto. **Raíces** no vistas. **Tallos** sencillos, tipo caña, lateralmente comprimidos, rectos, 22 x 0.5-0.75 cm. **Hojas** más de 10, distribuidas a lo largo del tallo; vaina tubular lateralmente comprimida, ligeramente estriada en seco, 1.0-2.5 cm de largo; lámina articulada, angostamente lanceolada, aguda, margen entero, subcoriácea, lisa, 14.5-16 x 1.1-2.1 cm. **Espata** 1, prominente, conduplicada, aguda, tubular en la base, abierta arriba, 7.3 x 0.7 cm. **Inflorescencia** apical, del crecimiento maduro, florece una sola vez, paniculada, con 1-2 ramificaciones semejantes cerca de la base, erecta, extendida, 15 cm de largo, pedúnculo más corto que la espata, raquis terete, no ornamentado. **Brácteas florales** muy cortas, filiformes, 1-3 mm de largo. **Flores** resupinadas, simultáneas, ca. 50, coloración y fragancia no registradas. **Ovario** terete, delgado, no inflado, dilatado en el ápice, no ornamentado, 7-9 mm de largo. **Sépalos** extendidos, libres, quilla dorsal inconspícua en los laterales, glabros, subcarnosos, 5-nervados; el **dorsal** oblanceolado, agudo, margen extendido, 12-13 x 2.5 mm de ancho; los **laterales** oblanceolados, aristados, oblicuos, margen extendido, 13 x 3 mm. **Pétalos** extendidos, angostamente oblanceolados, agudos, margen extendido, membranáceos, 1-nervados, 12 x 1 mm. **Labelo** unido a la columna, trilobado, cordado, margen ondulado, subcarnoso, 6 x 8 mm; bicalloso, los callos alargados; unicarinado, la carina delgada; lóbulos laterales dolabriformes, lóbulo medio más pequeño, subrectangular, algo estrecho hacia la mitad, con un seno apical apiculado. **Columna** arqueada, delgada, 8-9 mm de largo. **Lóbulos laterales del estigma** cortos, de 1/3 de largo de la cavidad. **Clinandrio** corto, entero. **Antera** subreniforme, 4 locular. **Polinios** 4, obovoides, lateralmente comprimidos, caudículas granulosas. **Rostelo** subapical, hendido. **Nectario** penetrando una 1/4 parte del ovario, no ornamentado. **Cápsula** no vista.

Caespitose epiphytic **herb. Stems** reed-like, laterally compressed, straight. **Leaves** distributed throughout the stems; blade narrowly lanceolate, acute, subcoriaceous. **Spathe** 1, prominent, conduplicate, tubular at the base, open above, acute. **Inflorescence** apical, paniculate, branch racemes similar. **Flowers** simultaneous, resupinate. **Sepals** oblanceolate, somewhat fleshy, 5-veined, the laterals oblique and aristate. **Petals** narrowly oblanceolate, acute, 1-veined. **Lip** cordate, 3-lobed; bicallose, calli elongate; with a low, thin keel running down the center; lateral lobes dolabriform, margin sinuate; midlobe subrectangular, the apex with an apicule in the sinus. **Column** arched, slender. **Clinandrium** short, entire. **Anther** subreniform, unornamented, 4-celled. **Pollinia** 4, obovoid, laterally compressed. **Rostellum** apical, slit. **Nectary** penetrating one fourth of the ovary, unornamented.

OTHER SPECIMENS: PERU: Machupijchu [Machu Picchu], 2000 m, *Vargas 17114*, AMES!, CUZ (photo AMO!)

DISTRIBUTION AND ECOLOGY: Known only from Peru, from the Valley of the Río Urubamba, Province of Cuzco, at 1800-2000 m altitude.

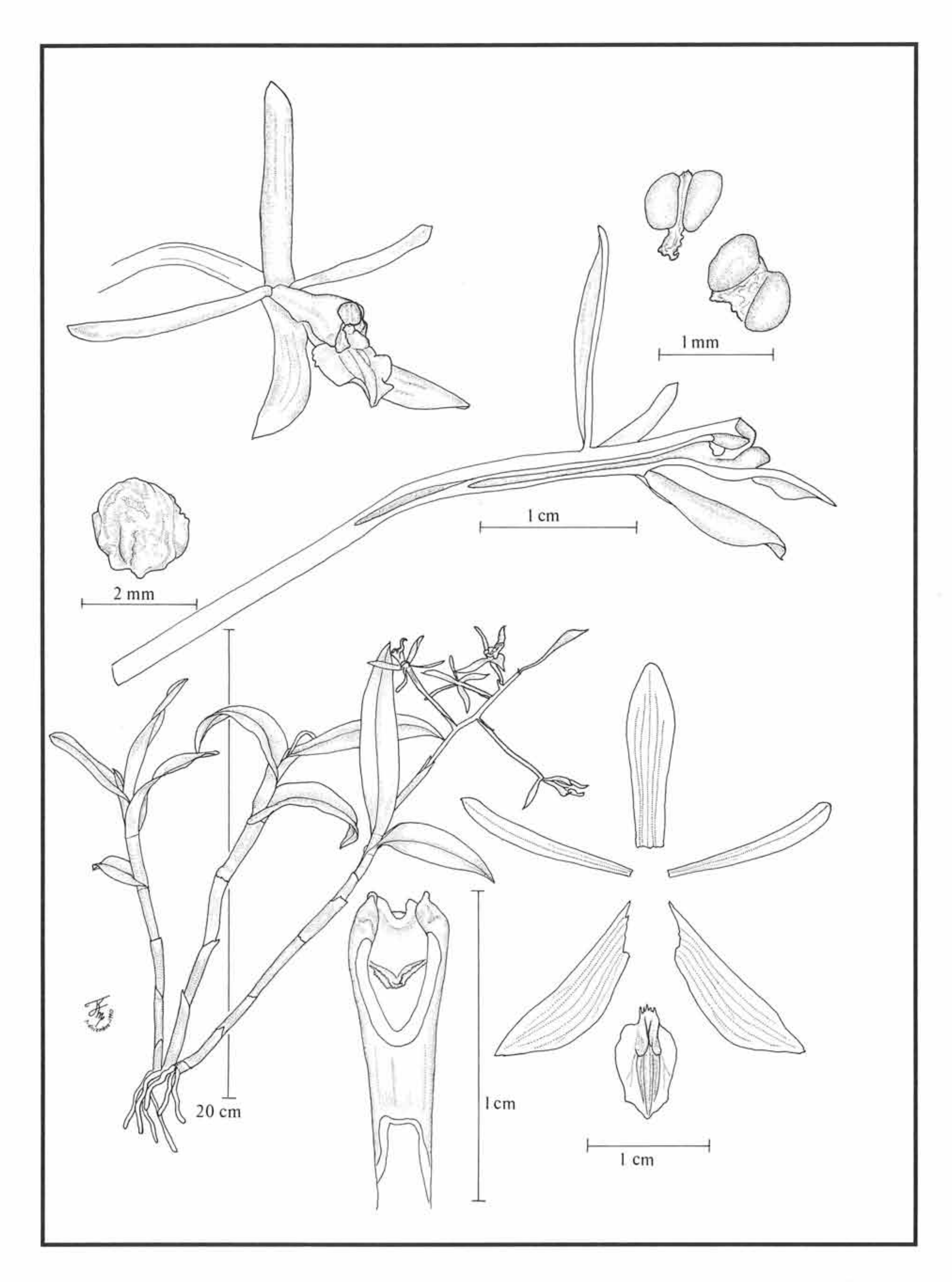
RECOGNITION: *Epidendrum urubambae* belongs to the excisum group recognized by the simple stems, prominent spathe. The species is closely related to *E. utcuyacuënse*, has acute spathes, and is distinguished by the paniculate inflorescence and somewhat larger flowers, the sepals being 12-15 mm long, thin, short ovary. *Epidendrum utcuyacuënse* has smaller flowers, the sepals 10 mm long, and proportionately wider, the lip with erose lateral lobes and the midlobe nearly twice as long as wide; the type has a racemose inflorescence. *Epidendrum modestum* Rchb.f. & Warsc. has somewhat wider (22-26 mm), coriaceous leaves, with the apex rounded, sepals 8 mm long, and filiform petals. *Epidendrum baezense* Hágsater & Dodson is similar overall but the lip is not deeply 3-lobed, and the tepals are proportionately wider and obtuse. *Epidendrum excisum* Lindl. is strap-leaved, the leaves being oblong and coriaceous, the apex bilobed and the spathes rounded.



CONSERVATION STATUS: DD. Data deficient.

ETYMOLOGY: In reference to Urubamba, the name of the river that runs down the valley where the Inca city of Machu Picchu is found and where the species has been collected. The Urubamba is a tributary of the Ucayali river, itself a tributary of the Marañón, in the upper Amazon basin.

Authors: E. Hágsater **Illustrator: M. López R.** **Editors: E. Hágsater & L. Sánchez S.**
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EPIDENDRUM VEROREVELOI Hágsater & Dodson

Plate 497

EPIDENDRUM VEROREVELOI Hágsater et Dodson, *sp. nov.*

Type: ECUADOR: Sucumbios: Cantón El Carmelo; km 30.1 desviación de la carretera Tulcán-Ibarra hacia La Bonita, desviación hacia Playón de San Francisco del puente, 3015 m, bosque húmedo enano, ***E. Hágsater, C. H. Dodson, D. Rubio & N. Revelo 10606.*** Holotype: AMO! (illustration voucher).

Epidendro trulliformi Garay & Dunst. simile sed floribus non resupinatis, labello ovato et petalis uninervatis.

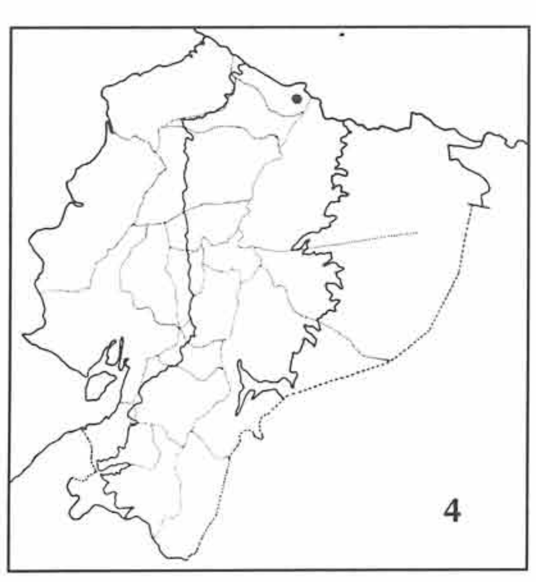
Hierba terrestre, cespitosa, 25 cm de alto. **Raíces** basales, sencillas, 2-3 mm de grosor. **Tallo** tipo caña, recto, terete abajo, lateralmente comprimido arriba, sencillo, 11 x 0.3-0.5 cm; el nuevo tallo se produce de la base del anterior. **Hojas** 4-5, equidistantes, en el tercio apical del tallo; vainas tubulares, estriadas en seco, 1-2.5 cm de largo; lámina elíptica, aguda, margen entero, carinada, desiguales, progresivamente más grandes, 8 x 1.6 cm. **Espata** 1, angosta, aguda, conduplicada, abierta de un lado hacia el ápice, cubriendo todo el pedúnculo, 4.5 x 0.4 cm. **Inflorescencia** apical, de tallo maduro, florece una sola vez, racemosa, erecta, 12 cm de largo; pedúnculo 4 cm de largo. **Brácteas florales** más cortas que el ovario, lanceoladas, agudas, 2-9 x 1-2 mm. **Flores** 6, simultáneas, no resupinadas, verde cobrizo, mitad apical de la columna verde manzana. **Ovario** terete, no ornamentado, 25-31 mm de largo. **Sépalos** entreabiertos, libres, angostamente elíptico lanceolados, agudos, los laterales adnados a la columna en la base, falcados, margen extendido, no ornamentados, membranáceos, 5-nervados, 15-16 x 4-4.5 mm. **Pétalos** entreabiertos, linear oblanceolados, obtusos, margen extendido, entero, membranáceos, 1-nervados, con una nervadura secundaria incipiente, 15 x 1.5 mm. **Labelo** unido a la columna, ovado, base cuneada, ápice obtuso, 5-8 x 5 mm; bicalloso, callos prominentes, lateralmente comprimidos, disco con 3 quillas romas, la central llega hasta el ápice. **Columna** recta, delgada, 10 mm de largo. **Clinandrio** corto, entero. **Antera** subesférica, 4-locular. **Polinios** 4, obovoides, lateralmente comprimidos, caudículas granulosas, más largas que los polinios. **Rostelo** apical, hendido. **Lóbulos laterales del estigma** de 1/3 del largo del estigma. **Nectario** penetrando 1/3 del ovario, no ornamentado. **Cápsula** no vista.

Terrestrial, caespitose **herb**. **Stem** erect, cane-like, laterally compressed above, produced from the base of the previous stem. **Leaves** 4-5, elliptic, acute, margin entire. **Spathe** narrow, acute. **Inflorescence** apical, racemose, erect, flowering only once. **Floral bracts** shorter than the ovary. **Flowers** 6, simultaneous, non-resupinate, copper-green, the apical half of the column apple green. **Ovary** thin, long. **Sepals** narrowly lanceolate-elliptic, acute, 5-veined. **Petals** linear-oblanceolate, obtuse, margin entire, 1-veined, with an incipient secondary vein. **Lip** ovate, cuneate at the base, apex obtuse; bicallose, calli laterally compressed, disc 3-keeled, the keels low and rounded. **Column** straight. **Clinandrium** short, entire. **Rostellum** apical, slit. **Nectary** penetrating one third of the ovary.

OTHER SPECIMENS: None seen.

DISTRIBUTION AND ECOLOGY: In Ecuador known only from the collection cited, on road embankments, in the eastern slopes of the Eastern range of the Andes in northern Ecuador, in humid elfin forest at 3000 m altitude. Flowering in December.

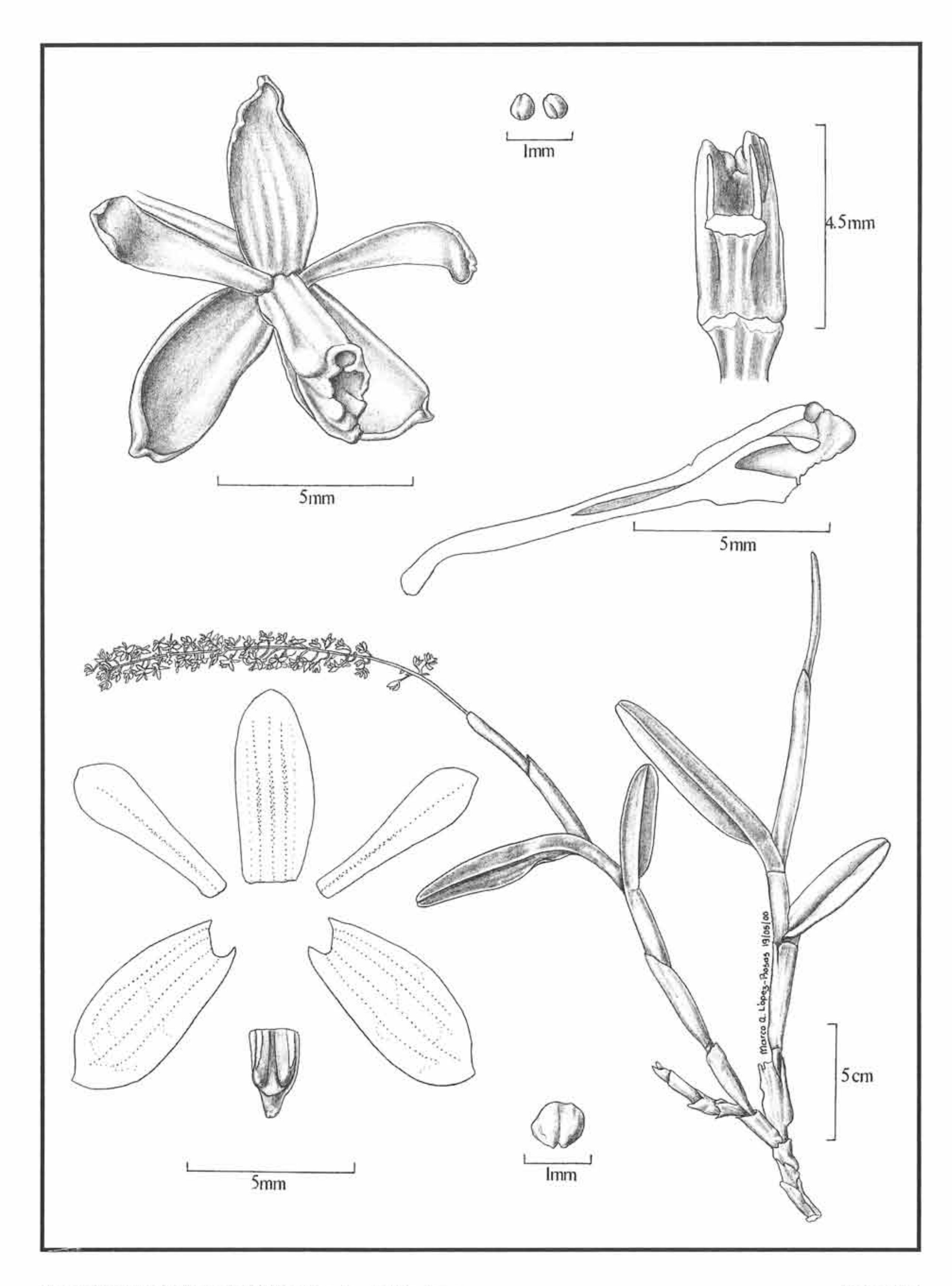
RECOGNITION: *Epidendrum veroreveloi* has a caespitose habit, with simple, laterally compressed stems, an acute spathe, erect racemose inflorescence, short floral bracts, non-resupinate, simultaneous flowers with 15-16 mm long sepals, 1-veined petals, and an ovate lip. It was confused with *Epidendrum trulliforme* which has slightly separated stems, 4 leaves, 1-2 narrow, acute spathes, racemose to 1-branched inflorescence, the floral bracts as long as to shorter than the ovaries, resupinate flowers with a trulliform to somewhat hastate lip, 3-veined petals, sepals 16-20 mm long, the flowers produced in succession, several being open at one time. *Epidendrum trilobochilum* Hágsater & Dodson has a clearly 3-lobed lip, the lateral lobes slightly smaller than the obcuneate midlobe which is slightly emarginate and mucronate; the flowers are produced simultaneously. *Epidendrum fruticetorum* Schltr. has a 3-lobed lip, the midlobe clearly bilobed.



CONSERVATION STATUS: DD. Data deficient.

ETYMOLOGY: From the Latin *vero-* true, and Revelo in honor of Nixon Revelo, who participated in the original collection. In reference to the fact that the original description of *E. reveloi* designated a different specimen as the type, which has later proved to be the same as *E. trulliforme*.

NOTE: In the description of *E. reveloi*, the specimen used as the type was not the plant illustrated. Further study has shown that the specimen used as the type corresponds to *E. trulliforme*, and thus the name *E. reveloi* is relegated to synonymy. Herewith the species illustrated is proposed as new.



EPIDENDRUM VIOLETENSE Hágsater & Dodson — **Plate 498**

EPIDENDRUM VIOLETENSE Hágsater et Dodson, *sp. nov.*

Type: ECUADOR: Loja: About 10 km SW of Loja, along road past the University towards La Violeta, terrestrial in cloud forest and rather dry scrub, 2950 m, 26 Apr. 1987, ***H. van der Werff & W. Palacios 9063.*** Holotype: SEL! (illustration voucher).

Epidendro manco Lindl. simile sed foliis lanceolatis usque anguste ellipticis, pedunculo duas bracteas spathiformes longas apiculatas ferenti et inflorescentia elongata discrepans.

Hierba epífita, cespitosa, erecta, 27-40 cm de alto. **Raíces** basales, carnosas, delgadas, 0.5-1 mm de grosor. **Tallos** ramificados, tipo caña, rectos, algo lateralmente comprimidos, 11-16 x 0.3-0.5 cm. **Hojas** 2 en el ápice del tallo, erectas; vaina tubular, lateralmente comprimida, estriada, 2-4.5 x 0.8-0.9 cm; lámina angostamente elíptica oblonga, desigualmente bilobada, con una quilla dorsal, margen entero, coriácea, 5-10 x 1.3-1.6 cm. **Espatas** 2, tubulares, oblongas, ancipitosas, apiculadas, 3-6 x 0.9-1.5 cm. **Inflorescencia** apical, racemosa, erecta, 13-23 cm de largo; pedúnculo lateralmente comprimido, recto, no ornamentado. **Brácteas florales** mucho más cortas que el ovario a obsoletas. **Ovario** terete, no ornamentado, no inflado, 6-8 x 0.4-0.6 mm. **Flores** más de 20, simultáneas, resupinadas, de color púrpura, labelo con base verde y con un circulo púrpura; fragancia no registrada. **Sépalos** extendidos, ligeramente cóncavos, libres, ovados, agudos, margen entero, 5-nervados, 5.5-6.0 x 1.6-2.5 mm; el **dorsal** redondeado. **Pétalos** extendidos, ligeramente cóncavos, libres, espatulados, obtusos, margen entero, 1-nervados, 5.0-5.5 x 1.2-1.5 mm. **Labelo** unido a la columna, reducido, entero, carnoso, 2.5-3.0 x 1.2-1.5 mm; bicalloso, los callos prominentes, ocupando 2/3 del labelo, con una quilla corta en medio, dando la apariencia de una estructura gruesa trilobada, margen entero. **Columna** recta, 4 mm de largo. **Clinandrio** corto, entero. **Antera** 4-locular, subesférica. **Polinios** 4, obovoides, lateralmente comprimidos. **Rostelo** subapical, hendido. **Lóbulos laterales del estigma** de 1/3 de largo de la cavidad estigmática. **Nectario** sin traspasar el perianto, no ornamentado. **Cápsula** no vista.

Epiphytic, caespitose **herb. Stems** cane-like, short, somewhat laterally compressed. **Leaves** 2, apical, unequally bilobed, coriaceous, margin entire. **Spathes** 2, tubular, oblong, ancipitose, apiculate. **Inflorescence** apical, racemose, erect; peduncle laterally compressed, erect, unornamented. **Floral bracts** much shorter than the ovary to obsolete. **Ovary** terete, unornamented, not inflated. **Flowers** 20 or more, simultaneous, non-resupinate, purple, lip green at the base and with a purple circle. **Sepals** spreading, free, ovate, acute, 5-veined. **Petals** spreading, spathulate, obtuse, 1-veined. **Lip** reduced, entire, fleshy; bicallose, the calli prominent, with a small intermediate short keel, producing a 3-lobed appearance, margin entire. **Column** straight. **Clinandrium** short, entire. **Nectary** short, not surpassing the perianth, unornamented.

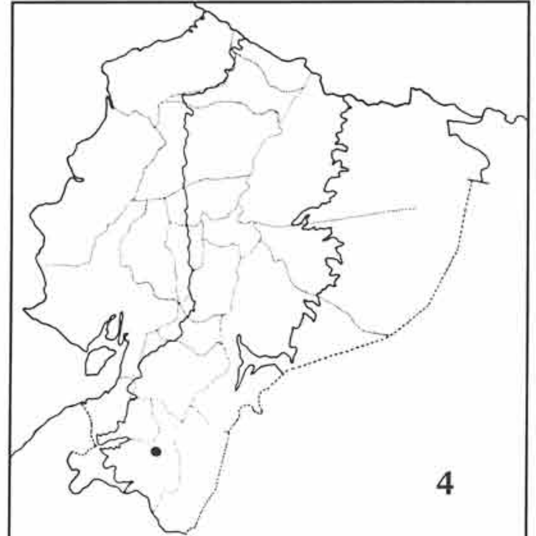
OTHER SPECIMENS: None seen.

DISTRIBUTION AND ECOLOGY: Known only from the type, epiphytic in degraded cloud forest and rather dry scrub, 2950 m altitude. Flowering in April.

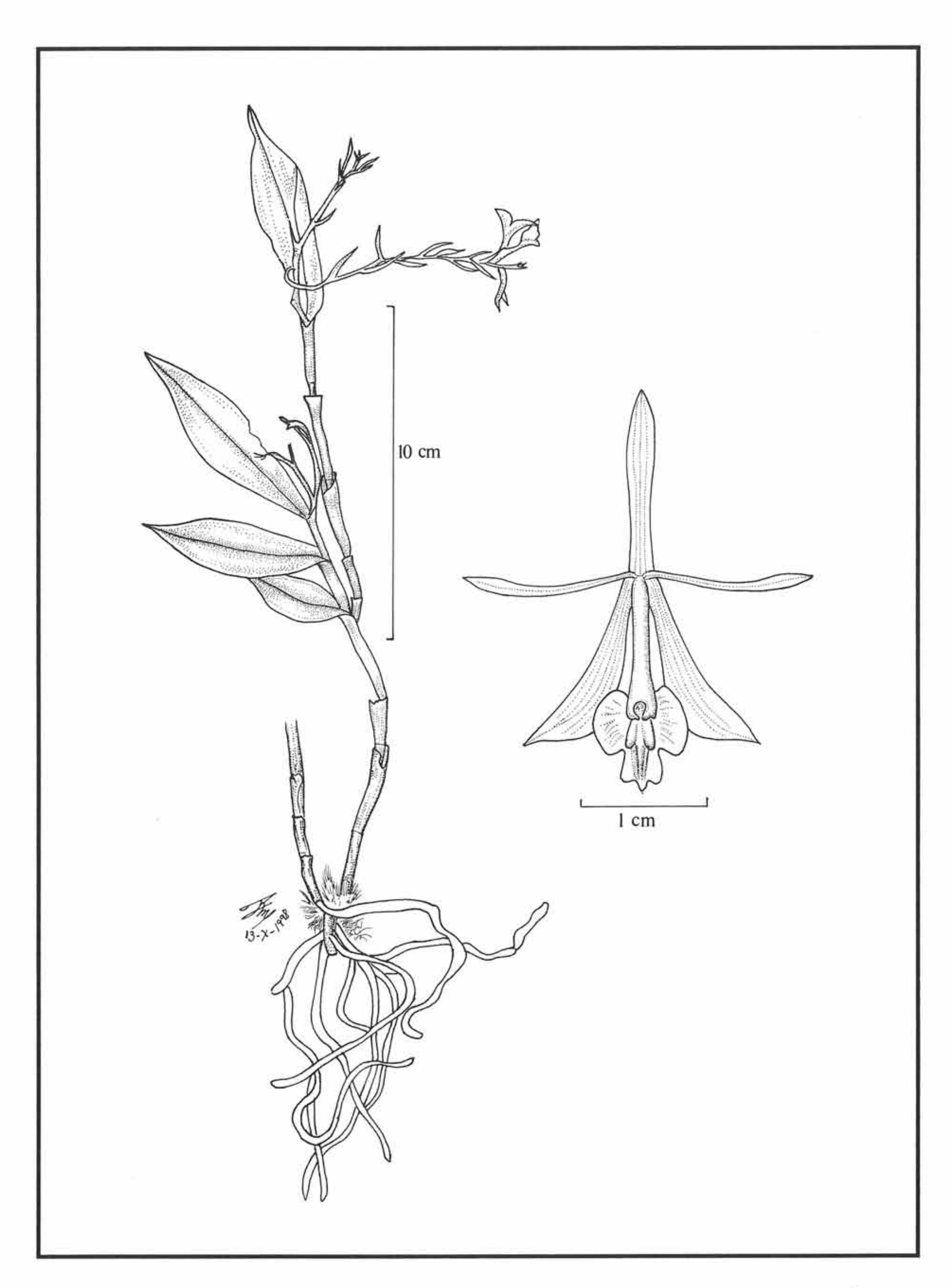
RECOGNITION: *Epidendrum violetense* belongs to the mancum group and can be recognized by its lanceolate to narrowly elliptic leaves, peduncle with two long, apiculate bracts, large inflorescence, purple flowers, lip green at the base and with a purple circle. It's similar to *E. mancum*, but the latter has shorter and elliptic-ovate leaves, smaller inflorescence, orange and yellow flowers. *Epidendrum brachyglossum* Lindl., is found at lower altitudes, plants are larger, have linear-lanceolate leaves, and a more or less 3-lobed lip.

CONSERVATION STATUS: DD. Data deficient.

ETYMOLOGY: The epithet *violetense* refers to the locality where the type was collected, on the way from Loja to La Violeta, and which fits the reported purple color of the flowers.



Authors: E. Hágsater & C. H. Dodson **Illustrator: M. López R.** **Editors: E. Hágsater & L. Sánchez S.**
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EPIDENDRUM WIGGINSII Hágsater & Dodson

Plate 499

EPIDENDRUM WIGGINSII Hágsater et Dodson, *sp. nov.*

Type: ECUADOR: [Pichincha] "Imbabura"; vicinity of Laguna de la Virgen, on ridge just south Rio Clavadero, east of Cayambe peak, 8750 ft, 26 July 1944, ***Ira Wiggins 10461.*** Holotype: CAS! (fragment of holotype in glycerine at AMES, illustration of type at AMES!).

Epidendro alexii Hágsater & Dodson simile sed petalis lineari-oblanceolatis, labelli lobulis lateralibus transverse ellipticis ad marginem integris, lobulo medio obcuneato mucronato recedit.

Hierba epífita, de simpodio erecto, 54 cm de alto. **Raíces** basales y ocasionalmente de la base de algunos de los tallos superiores, carnosas, gruesas, ca. 2.5 mm de grosor. **Tallos** tipo caña, rectos, erecto, el tallo nuevo se origina de un entrenudo subapical del tallo anterior, progresivamente más cortos, 9-26 x 0.25-0.5 cm. **Hojas 3,** alternas, agrupadas hacia la mitad apical de cada tallo; vainas tubulares, estriadas en seco, hasta de 3 cm de largo; lámina articulada, elíptica, acuminada, margen entero, herbácea, lisa, desiguale, progresivamente más grandes; 3-7 x 1.2-1.8 cm. **Inflorescencia** apical, del crecimiento maduro, florece una sola vez, paniculada, arqueado-colgante, 7.5 cm de largo. **Espata** ausente. **Flores** ca. 16, sucesivas, resupinadas, de color verde amarillento. **Brácteas florales** progresivamente más cortas, angostamente lanceoladas, acuminadas, 6-14 mm de largo. **Ovario** no ornamentado, terete, 12 mm de largo. **Sépalos** extendidos, libres, angostamente oblanceolados, agudos, margen extendido; el **dorsal** 5-nervado, 12 x 2.5 mm; los **laterales** fuertemente falcados, 7-nervados, 17 x 3 mm. **Pétalos** extendidos, linear-oblanceolados, agudos, margen extendido, membranáceos, 1-nervados, 13 x 1 mm. **Labelo** unido a la columna, trilobado, profundamente cordado, 8 x 6.5 mm; bicalloso, callos prominentes de la mitad del ancho de los lóbulos laterales y llegando casi hasta los senos entre los lóbulos, carina central roma; lóbulos laterales transversalmente elípticos, redondeados, margen entero; lóbulo medio más pequeño, obcuneado, mucronado, margen entero. **Columna** recta, delgada, 11.5 mm de largo. **Clinandrio** reducido, margen entero. **Rostelo** apical, hendido. **Nectario, antera, polinario y cápsula** no vistos.

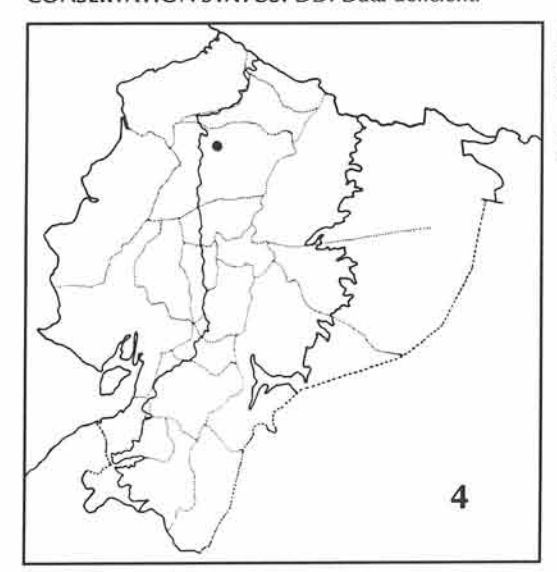
Epiphytic, erect, sympodial **herb**. **Roots** fleshy, from the base of the plant or occasionally from the base of one of the upper stems. **Stems** straight, the new stem is produced from an upper internode of the previous stem. **Leaves** 3, narrowly elliptic, herbaceous, distributed towards the apical half of the stem. **Inflorescence** apical from the mature growth, pendent, paniculate. **Flowers** 16, successive, resupinate, yellow-green. **Sepals** narrowly oblanceolate, acute, 5-to 7-veined, membranaceous, the laterals strongly falcate. **Petals** linear-oblanceolate, acute, 1-veined. **Lip** 3-lobed, base deeply cordate; bicallose, the calli prominent, laterally flattened, nearly reaching the sinuses, central keel rounded; lateral lobes transversely elliptic, rounded, margins entire, midlobe obcuneate, mucronate. **Column** straight, thin. **Clinandrium** reduced, entire.

OTHER SPECIMENS: None seen.

DISTRIBUTION AND ECOLOGY: Known only from the type, at 2650 m altitude. Flowering in July.

RECOGNITION: *Epidendrum wigginsii* belongs to the arbuscula group, amplexicaule subgroup,which has successive growths, where the new growth is produced from a subapical internode of the previous growth, the acute to acuminate leaves and the paniculate inflorescence. The species is recognized by the pendent, 16-flowered, and the membranaceous yellow-green flowers with a three-lobed lip, the transversely elliptic lateral lobes and the obcuneate, mucronate midlobe distinguish this species. It closely resembles *E. haenkeanum* Presl from Machu Picchu which has a differently proportioned lip, the sepals about half as wide and the calli much smaller. *Epidendrum alexii* Hágsater & Dodson has small lateral lobes obliquely dolabriform-triangular, and an elongate midlobe dilated near the apex into a pair of semicircular lobes. *Epidendrum amplexicaule* Lindl. is vegetatively similar, but the lobes of the lip are oblong, truncate with the distal margin dentate.

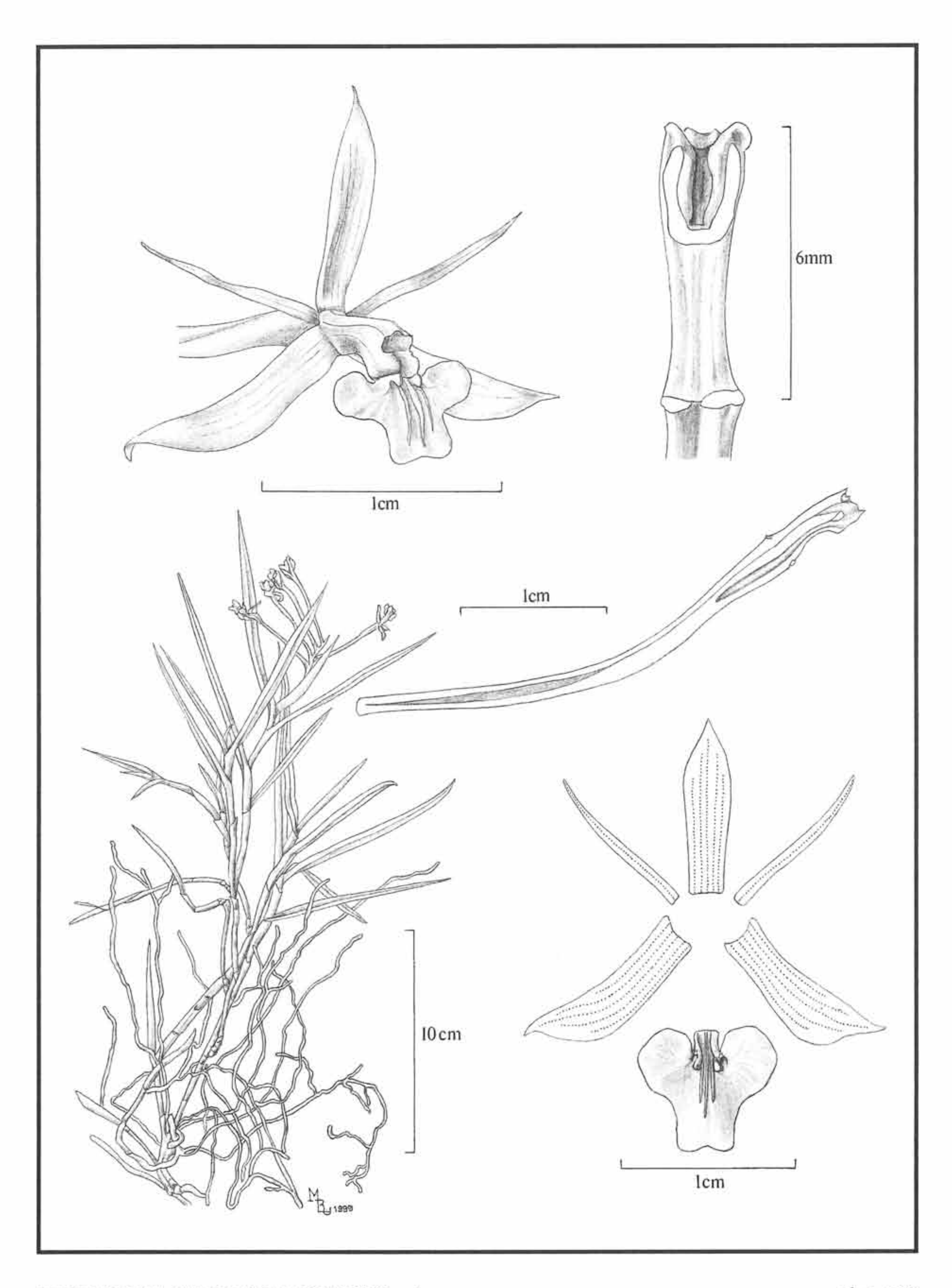
CONSERVATION STATUS: DD. Data deficient.



ETIMOLOGY: In honor of Ira Wiggins, Professor emeritus of Biological Sciences at Stanford University, he collected in Ecuador in 1944, including the type and co-authored the **Flora of the Galápagos Islands**.

NOTE: The illustration was traced from the illustration prepared from the type by Gordon W. Dillon April 26th, 1946 which is at AMES.

Authors: E. Hágsater & C. H. Dodson **Illustrator: R. Jiménez M.** **Editors: E. Hágsater & L. Sánchez S.**
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EPIDENDRUM YAMBRASBAMBENSE Hágsater

Plate 500

EPIDENDRUM YAMBRASBAMBENSE Hágsater, *sp. nov.*

Type: PERU: Amazonas: Pongará, Yambrasbamba, above Cpto. Buenos Aires, across the Río Chiriaco, some 40 km N of Jumbilla 1860-2000 m, epiphyte on mossy inclined trees, 2-26 March 1967, ***Stephen S. Tillett 673-219.*** Holotype: AMES! (illustration voucher).

Epidendro fruticetorum Schltr. similare sed habitu prostrato, foliis lineari-lanceolatis usque lineari-ellipticis, acutis, petalis linearibus acuminatis differt.

Hierba epífita, algo rastrera, 35 cm de alto. **Raíces** de la base de los tallos, sencillas, 1-2 mm de grosor. **Tallo** tipo caña, sinuoso, terete abajo, lateralmente comprimido arriba, sencillo, 11-19 x 0.2-0.5 cm; el nuevo tallo se produce a los 2-5 cm de la base del anterior. **Hojas** 4-6, equidistantes, distribuidas en la mitad apical del tallo; vainas lateralmente comprimidas, estriadas en seco, 1-2.2 cm de largo; lámina linear lanceolada a elíptica, aguda, margen entero, carinada, 6-11 x 0.3-0.7 cm. **Espata** 1, angosta, acuminada, conduplicada, oblicua, abierta de un lado hacia el ápice, cubriendo todo el pedúnculo y tan larga como pedúnculo y raquis, 4.5-5.0 x 0.4-0.5 cm. **Inflorescencia** apical, de tallo maduro, florece una sola vez, racemosa, erecta, pedúnculo 3 cm de largo, raquis 1.2-1.4 cm de largo. **Brácteas florales** mucho más cortas que el ovario, lineares, acuminadas, 1-5 mm de largo. **Flores** 5-6, simultáneas, no resupinadas; perianto blanco verdoso, teñido por fuera de pardo rojizo, polinios gris azuloso; sin fragancia. **Ovario** terete, no ornamentado, dilatado progresivamente en su 1/5 apical 21-40 mm de largo. **Sépalos** extendidos, libres, obovado oblongos, agudos, los laterales falcados, margen extendido, no ornamentados, membranáceos, 5-nervados, 9-10 x 3 mm. **Pétalos** extendidos, linear acuminados, margen extendido, margen entero, membranáceos, 1-nervados, 9 x 0.7 mm. **Labelo** unido a la columna, trilobado, base cordada, 7 x 8 mm; bicalloso, callos lateralmente comprimidos, disco tricarinado, la central ligeramente más larga; lóbulos laterales orbiculares, margen entero, ca 2.5 mm de diámetro; lóbulo medio cuadrado, ligeramente emarginado, 2.5 x 3 mm. **Columna** recta, gruesa, 6 mm de largo. **Clinandrio** corto, entero. **Antera** y **polinios** no vistos. **Rostelo** apical, hendido. **Lóbulos laterales del estigma** de 1/4 del largo del estigma. **Nectario** penetrando 1/5 del ovario, no ornamentado. **Cápsula** no vista.

Epiphytic, straggling **herb**. **Stem** erect, cane-like, laterally compressed above, produced near the base of the previous stem. **Leaves** 4-6, linear-lanceolate to elliptic, acuminate, margin entire. **Spathe** narrow, acuminate, oblique. **Inflorescence** apical, racemose, erect, flowering only once. **Floral bracts** much shorter than the ovary. **Flowers** 5-6, simultaneous, non-resupinate, greenish white, with a reddish brown flush without, without fragrance. **Ovary** thin, dilated apically. **Sepals** ovate-oblong, acute, 5-veined. **Petals** linear, acuminate, 1-veined. **Lip** 3-lobed, cordate at the base; bicallose, calli laterally compressed; lateral lobes orbicular, midlobe square, slightly emarginate. **Column** straight. **Clinandrium** short, entire. **Rostellum** apical, slit. **Nectary** penetrating one fifth of the ovary.

OTHER SPECIMENS: None seen.

RECOGNITION: *Epidendrum yambrasbambense* belongs to the trulliforme subgroup of the excisum group and is recognized by the straggling habit, flattened stems, few linear-lanceolate to elliptic, narrow leaves, narrow, acuminate and oblique spathe, and erect inflorescence with few non-resupinate flowers, 3-lobed lip and linear acuminate petals. *Epidendrum trilobochilum* has much wider leaves, a usually 1-branched inflorescence, the floral bracts longer to much shorter than the ovaries, resupinate flowers with a deeply 3-lobed lip, the lateral lobes slightly smaller than the cuneate midlobe. The plants are similar to but larger than those of *E. fruticetorum* which has wider leaves, wider petals, a clearly bilobed midlobe, and erose margins.



DISTRIBUTION AND ECOLOGY: Known only from the type, on mossy tree trunks near the ground in low wet montane forest, along the upper reaches of the Alto Marañón in the eastern slopes of the Andes in north central Peru, at 1800-2000 m altitude. Flowering in March.

CONSERVATION STATUS: DD. Data deficient.

ETYMOLOGY: In reference to the town of Yambrasbamba in north-eastern Peru.

Authors: E. Hágsater **Illustrator: M. López R.** **Editors: E. Hágsater & L. Sánchez S.**
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